VOLUME V, NUMBER 2 APRIL, 1955

Educational Theory....

SCIENCE AND EDUCATION

THE TEN BASIC FUNCTIONS OF MAN

TASTE IN THE ARTS

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Published by THE JOHN DEWEY SOCIETY, THE PHILOSOPHY OF EDUCATION SOCIETY, and THE COLLEGE OF EDUCATION, UNIVERSITY OF ILLINOIS

EDUCATIONAL THEORY

A Medium of Expression for the John Dewey Society and the Philosophy of Education Society

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EDUCATIONAL THEORY is published quarterly at Columbus, Ohio, by the University of Illinois. The general purposes of this journal are to foster the continuing development of educational theory and to encourage wide and effective discussion of theoretical problems within the educational profession. In order to achieve these purposes, the journal will be devoted to publishing scholarly articles and studies in the foundations of education, and in related disciplines outside the field of education, which contribute to the advancement of educational theory.

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Subscriptions: REGULAR RATE	$3.00
FOR MEMBERS OF THE JOHN DEWEY SOCIETY	$2.00
Membership Dues in the John Dewey Society	$5.00
Membership Dues in the Philosophy of Education Society	$5.00

All regular subscriptions should be sent directly to the Editorial Office, 105 Gregory Hall, University of Illinois, Urbana, Illinois. Members of the societies should send their subscriptions through their respective society. Statements concerning admission to membership in these societies are on the inside back cover.

Manuscripts and general correspondence should be sent to the Editorial Office, 105 Gregory Hall, University of Illinois, Urbana, Illinois.

Entered as second-class matter under Act of Congress, March 3, 1879, at the post office in Columbus, Ohio.

SPAHR & GLENN CO., 50 EAST BROAD STREET, COLUMBUS, OHIO

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Educational Theory

Vol. V April, 1955 No. 2

INTELLIGENCE, MORALITY, AND DEMOCRACY

BY CLYDE E. CURRAN

WHAT IS THE RELATIONSHIP BETWEEN INTELLIGENCE, MORALITY, AND TEACHING DEMOCRACY? The ability to reason has often been associated with democracy. Frequently, freedom has come to mean action controlled by intelligence. Associating freedom with intelligence does not, however, explain how reasoning can help individuals become free. Far too often those who make this connection treat reason in a vague way. From this inadequate point of view, reason is conceived as a force that exists outside of the impulses and habits of people, which, when brought to bear upon the biological side of men, will give it direction. It is not our purpose to go into a long argument against this idea. In passing, it should be said, however, that such a notion fails to take into account the facts about thinking. Treating reason, not as a function of behavior which develops within the context of habits and attitudes, but as a self-contained entity, puts reflection beyond the control of human impulses. This makes thinking a pure thing that does not function in learning or have an earthly existence except in the imagination.

Non-Free Relations

How can teachers look upon the relationship between intelligence and freedom so that it will bear fruit in classrooms? Recently psychiatrists have learned that human freedom, in its most profound sense, comes out of interpersonal relationships which yield love. Furthermore, the fullest development of individual capacities results from the attainment of freedom. To keep this from sounding sentimental, let us turn to non-free relations. At the opposite pole from love is rejection. It is a safe generalization to say that all people have to some degree experienced rejection. Clinical psychologists have traced damaging influence upon children who do not have parental love. Such children feel frustration followed by anger. Then they strike out in various ways to compensate for their inadequacies. Their behavior may take many forms, their personalities may develop in many ways, but they will carry with them a deep sense of loneli-

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ness and guilt. Contributions of clinical psychology only scratch the surface. The theme of rejection and guilt has universal scope. It is little wonder that the allegories of the Bible have had such appeal. People respond to things that touch them personally. The Bible is a best seller. It is a mirror in which almost everyone sees his own reflection. In their hearts people feel the powerful impact of the stories about the sin of mankind, for they too know the burden of guilt. Rejection, anger, loneliness, and guilt do not die, for the conditions stay alive that continuously recreate this stigma. This thesis appears and reappears in American literature. Hawthorne gave it a prominent place in his longer romances and tales. Melville in *Moby Dick* has Captain Ahab struggle with overpowering sin. During 1952 we saw it again in Hemingway's *The Old Man and the Sea* and Steinbeck's *East of Eden.*

Rejection and guilt take many forms. They become incorporated into cultural patterns in various ways. For example, the words Negro and Jew have become stereotyped so that many cultures hold these in contempt. Negro and Jewish people as a result have developed compensations. Sometimes they become submissive, at others they show resentment. Almost always they feel lonely and guilty. This illustration could be multiplied hundreds of time.

Those who fortify their egos at the expense of others do not escape bondage. If it were possible to ferret out the forces that cause domination of one person over another, or one group over another, we would see that the dominators are giving expression to their inadequacies which stem from rejection. The building of an artificial sense of self can reach gigantic and monstrous proportions such as in the case of Nazism. The underlying motivation, even in such large-scale movements, is rejection.

One of the byproducts of rejection which leads to personal or social insecurity is a desire for power. This has become so completely ingrained into the cultures of the western world that some political scientists depict politics as a science of power. Out of a struggle for power, expressed as the ruler over the ruled, or the master over the servant, or the rich over the poor, has grown a subtle kind of control. The dominated individuals or groups take the role of aggressive submission. They become so completely vanquished that the ruler or master takes little pride in his victory. Through their humble office, the downtrodden can give active expression to their hate. Often, after long periods of time, hate dwindles into disgust. Many domestic servants attain positions of security while at the same time they virtually direct the destinies of their masters. Passive resistance, as advocated by Thoreau or the group variety as put into practice in India under Ghandi, illustrates such control. The sit-down strike in the U. S. also serves such a purpose.

A hidden variety of this kind of submission has become part of the character of women. For hundreds of years they have lived under patriarchal domination. It is not suprising that they have developed ways that defy the brittle logic of the male mind. The comparison between the feminine personality with its yielding softness and the attributes of the feline has an element of truth. Anyone who has owned a cat realizes that the household revolves around her or she leaves. Women have a similar power. They exercise a passive domination which has been nurtured through long years of rejection.

CHOICE AND THINKING IN PRACTICAL MORAL AFFAIRS

There is no need to go further into the implications of rejection. Most individuals do not have to look outside of themselves to see loneliness and guilt taking their toll. There is, however, another human force that gives people hope. All moral philosophers have recognized it. They have interpreted it in many ways. Stated simply: people can choose. They have the possibility of improving conditions. That men can exercise control over their destinies places a tremendous moral force in their hands. Because of this, they can attain freedom; they can stand with dignity; they can indeed become *human* beings.

The existence in human nature of the opportunity for choice is no reason for undue elation. The possibility of choosing has been recognized for hundreds of years, yet far too few moral achievements have resulted. There are many causes for this, but one in particular concerns this discussion. Reason has been removed from everyday practical and moral affairs. This can be illustrated by analyzing different phases of thinking. The first kind of thinking that does not relate to everyday moral problems is abstract conceptualizing. People can hold ideas in a conceptualized form but not relate them to practical affairs. Because of this ability, it is possible during contemplation to relate ideas to ideas without referring them to concrete particulars. This is done in pure mathematics. The ability to handle ideas this way removes them from contact with experience. Once individuals can treat an object by substituting a word for the actuality, they can handle the object as a concept. Because of this ability, great systems of ideas can grow. This accounts for the development of deductive logic. Many traditional moral philosophies have flourished because of this ability. What concerns us in our present discussion is that thought can operate in a contemplative way without effecting practical and moral changes.

The human mind can also take imaginative leaps. Rather than working solutions to past problems (concepts) into neat systems, thoughts can take wings. This variety of thinking has been associated with inspiration and poetic insight. Here too as with the more rigorous logical contemplation, a separation between inspiration and actualities can occur. The dream eases the strain of frustrations without touching the conditions that cause conflict. The vision of hope arises from anguish but does not return to specifics to eliminate pain. The imaginative flights of poets leave sordid realities far behind. They reach such heights that daily affairs seem shabby by comparison. While serving as a psychological balm to their creators, they fail to touch earthly existence.

Thought functions in a third incomplete way. We could call the first kind of thinking "narrow deduction"; the second, "detached dreaming"; the third, "limited induction". An example of this third variety of thinking is the handbook engineer who becomes so engrossed in particulars that he knows neither where he is going nor where he came from. The scientific mind often loses itself in details. The intricacies of the specific shut it off from historical roots and at the same time keep it from taking the inductive leap into the future. The mole who busily removes particles of dirt from his path to fill the cavity behind him functions in the same way many scientific technicians do.

All three of these ways of thinking have limitations with respect to practical moral affairs. The attainment of democracy is a practical and moral achievement. It depends in part upon individuals' ability to make choices that will give

them control over the conditions under which they live. The "narrow deduction" spoken of above leads to the development of consistent sets of answers. The use of this mode of thought in relation to democracy places the emphasis upon the past. Conclusions that have been worked out serve as a yardstick against which to measure current happenings. Choice in this context consists in weighing one event, then another, to determine which most closely accords with the prescribed answer. The possibility for novelty or uniqueness is overruled by authority. In this context, reason serves to fit everyday realities to static patterns. It has no creative dimensions.

"Detached dreaming" has the advantage of reaching out toward unforeseen possibilities, but can easily degenerate into sentimentality for lack of fulfilment in reality. The dream of democracy, that because of its purity has no hope of fulfilment, can fill the dreamer with an inner glow but actually stands as an impediment to down-to-earth democratic living. Here choice is impossible, for the ethereal flights of thought have taken the poet so far from the problems and conflicts that call for judgment, they fade away as unreal.

The devotee to "limited induction" does not exercise reason in the broad way necessary to put democracy into practice either. His obsession for action without direction keeps his eyes upon particulars, his hands busy, but leaves the broader moral outlines untouched. He produces large amounts of materials, he uncovers many facts, but he does not succeed in reaching into the delicate human relations upon which democracy rests.

How then does the process of choosing operate to eliminate rejection? How do people use reason to understand and respect one another? They must learn to unify all three functions of thought spoken of above. They must operate in the world of particulars, the empirical realm of everyday events. They need, however, to relate particulars to their roots in history. They must see events as they come out of the past. At the same time, they must have the vision of dreamers.

Thinking can, in fact, operate so that all three functions of thought outlined above do unify. They can become isolated. Each phase can function separately. Contemplation can flourish without effecting action. Dreaming can be an escape from reality. Action can be carried on vigorously without the aid of either dreams or contemplation. When individuals make a choice, however, if this is a wise one, vision of the possible better future unifies with the facts of past and present to bring about harmony. This takes us to an important point.

The kind of nature individuals have depends upon their biological structures and how these have grown in environments. The environment and the biology of individuals are so intimately connected that, if we focus upon the individual, we see him as resulting from the contacts he has made with his surroundings. He is a unique organization of social and biological energies. His environment, in turn, is selected. It results from the kind of positive contacts he makes which shape his habits and attitudes. People develop habits and attitudes which predispose them toward certain elements in their surroundings and repulse them from others. Their habits carry them along through daily activities. They describe the scope of their environment.

During the process of developing habits, individuals continually come into situations that throw them out of balance. At such times action halts. The backlog of previously instated habits does not carry them along. Some change in their balance, some impeding influence, such as a foreign object, a new idea, a physical force, has disrupted smoothly working habits. They no longer function. When this occurs, the individual falters, he feels panic. His sense of equilibrium is destroyed. At such a time he is faced with the need to make a choice.

A study of the psychology of thinking shows that the conditions under which people live continually throw them out of balance. This state of imbalance is the precondition to thought. The boundaries within which thought functions, however, are the habits and attitudes of individuals. The natures of individuals determine both the possibility for, and the limitation of judgment. The conditions that sustain life demand continual adjustive acts. As individuals live, new elements of their surroundings impinge upon them in such a way that they must continually reach out to instate balance. Some needs are simple. An individual seeks food or water, or he may become involved in elaborate social conflicts, such as indecision about an important job. When the adjustment is of the simple biological variety or of the more complex kind, the foundation from which all behavior operates is the habit structure of the individual.

When habits falter because of some impeding force, a wave of energy is released. This release of energy is accompanied by feelings of distress. The panic the individual feels converts into a wild search for a way to gain satisfaction. At such times people want to act, but their habit structure has broken down. They don't know what to do. They face confusion. At this time, choice is necessary. The released energies that arise due to disrupted habits can be directed into positive channels. Rather than hastily reaching out for an object that will restore equilibrium, people can contemplate. During reflection facts are sought. The past is scanned for data that has bearing upon the incident causing disruption. The mind rapidly goes over possible solutions without putting any of them into action. A vast array of habits and attitudes that the individual has amassed comes to the front. The facts he deals with, the ideas he reflects upon, the possible solutions, all relate to the kinds of attitudes and habits he has developed. His previous habits in their molding have constructed into his person a great number of techniques. As he thinks, he draws upon these.

There is a difference between the way contemplation works here where an urgent demand needs satisfying and in the building of self-contained systems of thought. Here, in rapid rehearsal, the mind goes over facts and possible solutions determining which will best bring about a restoration of balance. This is not the easy chair of the study, but a situation fraught with distress and anxiety.

As an individual searches for a course of action that will restore balance, he not only looks into the past for facts or solutions of previous problems, but envisages possible new solutions. He imagines how various courses of action or ideas will fit into the problem, thus restoring balance. This is the visionary phase of thinking spoken of earlier. It unifies with the contemplative becoming a part of it. The dream or imaginatively held idea that will possibly institute balance gives direction by holding up a target to drive toward. In this context it is not a disassociated image but a possible solution that has arisen out of the demand for choice.

We can now see how all three of the previously discussed varieties of thinking unite. Living and adjusting throw habits out of balance so that judgment and reason are called for. If an individual, in making a choice, deliberates before acting and brings into the deliberation a wide assortment of pertinent facts and visions, weighing them against the situation requiring choice, he unites all three functions of thought. In the context of a specific problem that demands attention, where the individual needs to adjust because he experiences a failure in habits, then the hard reasoning that deals with realities unites with the dream to implement choice. The operation of reasoning within the pattern of decision-making, however, is carried on by habits.

Previously the statement was made that during a wise choice all three functions of thought become unified. What, then, is a wise choice? This is one in which the individual involved holds action in abeyance until he has had a chance to muster all the facts at his command. He has thoroughly looked into the past and present for information. He has weighed this against the situation that calls for decision to help him clarify the dimensions of his problem. He has visualized possible solutions, drawing upon his dreams of a better existence (his ideals). He deliberates long and with keen sensitivity to the implications of the situation causing conflict. He finally selects what he believes to be the best possible solution, then acts. He then reviews his decision to determine whether or not it meets the conditions of the problem. If the solution does not satisfy, he determines the reason. When this is done, an individual has chosen wisely. He may have made a mistake. He may have followed a course of action in business that will cost him money. Choice, even when done well, does not yield certainty. A wise choice does make it possible for the person involved to benefit from errors, because he will have at hand the facts concerning the case. He can see whether he erred in judgment, and, most likely, why. In going through the steps of deciding, he has exercised habits that extended the dimensions of his horizon. He has contacted objects during a highly dynamic experience in a way that gives them added significance. No individual who fully exercises imagination and deliberation during an instance of indecision comes out of that situation without a change in his nature.

HABITS AND THINKING

There are several deterrents to the judging process. Habits can become so rigid and so few in number than an individual will need to choose but does not have a sufficient stock of techniques to carry on the judging process. A disturbing object causes the individual to stop. He may even feel a strong sense of uneasiness but his habitual way of behaving pushes him on. He doesn't even take time to deliberate about the cause of the temporary upset. He feels a strong sense of bewilderment but long-standing habits carry him on through his daily tasks. If the disturbance is of sufficient power to permanently dislodge old ways of behaving, then lasting damage results. This can cause loss of memory or other pathological conditions. When people grow so that a few deeply set habits support them, they limit the extent to which choice can become effective in their lives. Rigidity and narrowness of habits can reach the point where choice becomes almost impossible.

In addition to developing inflexible habits that stand in the way of decisions, some people acquire the habit of depending upon the decisions of others until they cannot make up their own minds. When these individuals experience an upset, they do not try to understand fully the circumstances that have caused the disturbance, then seek a course of action that best fits these conditions. Instead, they want someone else to answer their problem for them. They either turn to another person or seek an authority that will tell them what to do. The authority may be a palmist, a scientist, or a religious leader. These people may search through books for an answer. They do not choose, but accept an answer given to them by some authority. They cultivate the habit of retreating from critical situations to the answers others give them. Thus, they sacrifice judgment and reason. They become slaves of authority. In addition to handicapping people who need to choose, this way of meeting problems only accidently reaches solutions that satisfy. More often than not the cause of the disturbance will reoccur because it has not been touched by the solution drawn from authority. Reliance upon authority no doubt has contributed to the failure to bring reason into moral matters.

The habit of referring to authority has led to a peculiar development in recent times. While people adhere to traditional beliefs about morality, they engage in behavior that does not conform with these ideas. The cultural forces that shape behavior have gradually slipped outside the control of ideas. People will believe in ideas about honesty yet engage in behavior that does not quite accord with these. This split is particularly conspicuous in relation to marriage and family life. Here, ways of behavior have moved away from concepts of right conduct. When this happens, individuals carry around an additional burden of guilt. They have doubts and anxiety about their conduct. Yet they have cut off the possibility of reasoning through the habit of yielding to authority.

A third limited way of adjusting concerns the before-mentioned dreamer. Some individuals can escape the pain and confusion of a problem situation through dreaming. Rather than come to grips with realities, they retreat into reverie. This relieves pain and confusion but does not affect the conditions that cause conflict. The habit of dreaming, if carried far enough, can completely break down the ability to reason. When this dangerous stage is reached, a serious mental problem results that needs the attention of psychiatrists.

A fourth kind of unthinking behavior often develops in men of action. When habits are disrupted, a surge of energy occurs. The tensions that accompany upset equilibrium call out for release. Instead of directing throbbing impluses into paths of deliberation, some people seek immediate satisfaction. They can find this by throwing themselves into action. Chopping wood, taking a fast walk, or swimming will give pent-up energies an outlet. Frequently individuals who search for ways of wearing themselves down, will turn to their daily work. Businessmen will ply themselves with increased vigor or students will lose themselves in study. This mode of adjustment has disadvantages. The problem prolongs causing continued pain, which in turn makes more exercise necessary. If the disturbances continue, the individuals involved can carry with them a load of unresolved conflicts which may result in a permanent restlessness. Such indivividuals often become neurotic. The man of superabundant energy and action frequently finds himself spurred on to do things because he has not or cannot take the time to reason. He develops habits that keep him from judging.

Still another example of habits that stand in the way of judgment is the thinker who cannot act. These individuals develop highly complicated habits of scholarship but do not have the will to put their decisions into action. Frequently they become completely carried away in pursuit of the facts, but never reach a decision. They have much in common with men of action who do not think. Instead of rushing about doing things, they engage in long hours of energy-consuming study and contemplation. Obsession with study can become an escape. Underlying a student's carefully built programs of research can be pressing conflicts that he cannot resolve because of his inability to carry through a complete act of reason. His libraries, his filing cabinets, and his philosophic principles form links in the chains that bind him.

People may acquire habits that make reasoning all but impossible or they may cultivate habitual ways of thinking that implement judgments. People undergo specific experiences that throw them out of balance. These impede action. Solutions to problems reinstate balance. The question may arise, how can reason function when it is confined to specifics? Won't the details arising out of disrupted habits keep individuals from bringing into play the vision necessary for judgment? People cannot transcend themselves. They cannot suddenly leap outside their own natures to look on themselves more objectively. There is, however, a continuity from one experience to another. What has happened in the past shapes personality. People have a vast storehouse of attitudes, ideas, and techniques. As they move from experience to experience, they are not inert but bring the fruits of previous learning to bear upon their problems. If they have cultivated articulate habits of deliberation, if their experiences have made them sensitive to the facets of difficult problems, and if they have habitually carried into action the products of reflection, they can turn reason toward extending their control over their destinies. There is no magic in decision making. The process operates from the kinds of human natures people have developed and how these interact with their environments. People can build into their natures habits that make the function of choosing operate in a limited way. They can cripple their abilities to reason until they cannot choose.

ENVIRONMENT AND THINKING

So far the emphasis has fallen upon the individual, his habits, desires, and attitudes, and how these forward or retard reason and choice. The individual caught up in the judging process inter-relates with objects. Outside the individual is a vast world. He contacts his surroundings in a dynamic manner. When he adjusts, an arrangement of habits occurs, but this does not take place passively. He forces and probes to bring about desired changes in his surroundings. Adjustments involved in making decisions not only modify individuals but change their relations with their surroundings. Part of this change will require a manipulation of objects so that they will fit more harmoniously with ongoing behavior.

The people of the West have made great strides in controlling their physical environment. The results of technological progress are familiar to everyone. Great ingenuity has been shown in the manipulation of the physical environment. The moral forces coming out of the relationships among people, however, have not so readily yielded to the control of human desire. There are many complicated reasons for this, but two in particular concern this discussion. There are two reasons which have kept individuals from controlling their conduct by ideals.

First, people have not judged and deliberated so that the results of thought have had a positive effect in shaping behavior. One reason for failures in judgment is the before-mentioned way thought has been separated from human nature and everyday situations that require choice. Another is that individuals develop habits that limit the degree to which thought will work effectively.

Secondly, people grow and learn in cultures. These provide them with their ideas, their notions of right and wrong, their tastes. People learn habits, attitudes, and desires (these motivating forces of human conduct) that reflect the cultures in which they live. Ideas about justice, moral conduct, in short, values, vary from culture to culture. This difference in value orientation, which carries through into human nature could serve as a source of strength. It could help people of different cultures become aware of possible weaknesses in their basic beliefs. They could critically compare differences and likenesses to enlighten behavior. This has not happened, however. People nurtured in differing cultures find ideas or moral compulsions other than their own a challenge to their own security. Differences in values set up barriers to understanding. This condition has led to rejection. People of one culture strengthen their sense of importance through rejecting others. (The bondage that results from this was referred to earlier.) Rejection has many consequences. One in particular refers to this discussion. Moral codes become barricaded. People protect them. They encase them behind argumentation. Their defense becomes incorporated into their natures, thus assuring the rigidity of moral codes.

Life goes on. The devices and machines men have created bring about changes in the way they live. Technological means of communication, for example, have brought the cultures of the world close together. Peoples of diverse value orientations stand side by side. Despite this physical proximity, they do not communicate—they do not understand one another. Their concepts of morality remain ineffective because they have been removed from the urgency of the contemporary scene, and people have, to varying degrees, incapacitated themselves to think through their problems.

Even within single cultures an imbalance between moral values and action has developed. Industrial civilization has promoted ways of living that do not come under the control of moral ideas. People spend so much time defending their beliefs, they frequently fail to realize they have gradually slipped into ways of behaving that do not accord with their ideals. They revere their beliefs, yet they succumb to the pressure of their natures which have often been growing increasingly unreasoning.

The inability to think through moral problems coupled with a tendency to protect existing moral codes has kept ideas from having a positive control over conduct. This does not mean controls do not exist. An extensive number of pressures develop in cultures which become incorporated into human personality. These can arise from hate, superstition, distrust. Individuals must have a base from which to behave. Their natures constitute this foundation. Human nature does not grow outside the context of associations among people. If fear and hate form a segment of the culture in which people live, they will tend to acquire these qualities in their characters. When people isolate themselves from the ability to control behavior through reason and, at the same time, build their moral codes into rigid systems which they worship, but which do not affect everyday behavior, they have opened the way for a frightening blindness, a terrifying slavery.

IMPLICATIONS FOR EDUCATION

What educational implications does the above theory suggest? What principle can be drawn from the foregoing analysis that will enlighten teaching? What problems does this principle present?

A wise choice unifies the various functions of reason so that a positive change in behavior results. It is easy to visualize the work of reflection as a cool act. The picture would include youths sitting at the feet of scholars. Through cultivating the art of contemplation, they master the ability to judge. These youths, under the guidance of wise teachers, learn the quiet way to reasonableness. This, however, is not how people learn to think. When an individual needs to choose because he suffers from an imbalance that makes his course of action dubious, he feels distressed. He wants a release from the insecurity he experiences. To deliberate, rather than give way to the urge to rush into panicky action, requires training in reflection. Learning how to think—how to build the ability to reason into human character—is a more difficult lesson. People learn these habits by continually meeting conflicts in life that demand decisions.

What are the broad implications of the preceding principle for educators? Thinking is a way of adjusting. People do not come into the world with predetermined entities (minds) that reason for them. They learn to think through acquiring habits of deliberation. Knowledge has many dimensions. We put knowledge into effect daily during the thousands of unconscious acts we perform. We know how to drive a car without thinking; we walk, talk, and read the newspaper without reasoning; we eat and do most of our work without the aid of mind. We can do all these acts and thousands more because without deliberating we know what to do. Our habits carry us along. The need for thought arises when something causes such a disruption of habits that this unconscious system of knowledge breaks down. When this happens, we do not know what to do. We must adjust.

When knowledge breaks down, people have the opportunity to think. When they don't know what to do, when habitual behavior falters, they may exercise reason.

We should not decry the fact that knowledge breaks down. This condition should challenge. Because of this, people can grow. When individuals don't know what to do because established patterns do not suffice, they may become wiser. The road to wisdom is through the disruption of knowledge. New habits must be established before equilibrium can become instated.

What specific insights does the foregoing principle hold for classroom teachers? *The precondition to reflection is an upset equilibrium. This means habitual ways of knowing have been thrown out of balance.* The implications of this fact can mean a great deal to teachers. On the negative side, it points out that much traditional teaching that aims to stimulate thought, misses the mark. Students can do lessons in every subject without reasoning. (Reasoning here means the total process of deliberation as developed previously.) They develop habits of studying which they apply in a mechanical manner. The work during daily sessions in class does not upset habitual patterns, but fortifies them. Lessons in history, languages, geography, and so on take time and often in a quiet way interest some of the students, but they do not often challenge because they do not

upset equilibrium. The students' stock of knowledge as exemplified by habits does not become disrupted. The school routines fit within the scope of these well-regulated patterns.

What happens to the natures of the pupils who do academic studies? Previously, deterrents to reasoning were spoken of. Two of these are rigid habits and the unquestioned reliance upon authority. Human nature is a dynamic affair that takes shape in accordance with the kinds of experiences individuals have. If, during their formative years, they live in homes, communities, and schools that early in their lives give them a limited set of habits, and if a good part of their ideas is accepted upon authority, they become incapable of thinking. It may seem incredible to teachers that youngsters can do well in their lessons, yet be narrowing their personalities to the point where they will have difficulty in judging. Unless pupils have the opportunity to adjust expansively, to continually rearrange habits, they stand in danger of learning lessons that will have a crippling effect upon their abilities to make decisions.

The above fact has positive implications also. When teachers know that reasoning is a way of adjusting, they will look into the conditions that call for adjustment. These conditions concern the pupil, his life, his nature, what he knows and how he has acquired this knowledge. They will especially consider conflicts in students' lives. The occurrence of disruptions in students' knowledge gives teachers their richest opportunities. Because of this they can help students to develop wider knowledge (expanding habits). Disruptions in students' habits give teachers a chance to help students increase their wisdom. The way to wisdom is through developing sensitivities and habits that promote the ability to reason. Without the need to choose, to adjust, this vital kind of teaching would not be possible.

Educators take the first step in teaching their pupils to think by becoming thoroughly acquainted with their backgrounds. Then they know when and why adjustments are necessary. Next they point out the steps involved in making judgments. After this they must have the courage to stand back and allow the pupils to make and act upon their own decisions. There is a pitfall here. Teachers must know when pupils have sufficient maturity to make decisions. Sometimes youngsters become involved in problems that they do not have the maturity to cope with. It takes keen insight to know at just what time pupils can accept responsibility for their decisions.

In addition to aiding pupils in coming to grips with problems that arise in their lives, teachers will use the classroom purposely to throw pupils out of balance. They will stimulate them so thoroughly that their backlog of established habits breaks down, thus causing them to need to adjust. Good teachers have always done this. They have conducted their programs with such vigor that many of their pupils become challenged. Often traditional teachers who succeed in stimulating their pupils, when asked what they do, give the wrong reasons for their success. They relate specific devices. They attribute their skill in teaching to their use of visual aids or the various ways they organize their lessons and so on. If the truth were known, it is most likely what they are as persons—their broad understandings, their extensive background of knowledge, their keen sense of responsibility, their intensive insights into the problems of students, their humor and enthusiasm, their devotion to ideals—all of these make it possible for them to

move their students. Good teachers have broad personal development. They have been drawn into the teaching profession because of the opportunity it affords for extensive personal growth. The above facts about teaching reasoning has a suggestion for even such teachers. To reach full professional status they must know why they achieve their successes. They need to study their students scientifically to know when they succeed and whey they fail. Even good teachers, if they do not have this knowledge, cannot profit from their mistakes.

Knowing that reasoning is an adjustive response, educators face a dual challenge. First, they must help students with the problems they bring to school. Second, they must continually challenge students, guide them in developing growing, flexible natures. During this second phase, teachers can exercise greater control, for they construct situations within the classroom that demand adjustments. This is possibly the most creative challenge in teaching—providing conditions that will bring about expansive pupil adjustments.

Does this mean teachers will abandon teaching the skills of communication—the three *R*'s? Certainly not. There is a difference between teaching reading, writing, and arithmetic within the context of the dynamic life processes of the students and treating them as the ends of education. This difference is similar to teaching the rules of harmony to composers who apply them immediately in their compositions as compared with individuals who try to learn to compose by studing the rules of harmony. The rules of harmony don't teach them how to compose. The traditional teaching of grammar as a prelude to composition is another illustration. The dynamic behind self-expression is the need to communicate. To an individual desiring to express himself clearly, the rules of grammar will make sense. The reverse does not hold up, however. This does not mean that writers should not know grammar, or that composers do not need a command of fundamentals, or that students in school should not learn basic skills. Where the traditional teacher falls down is in making the assumption that grammar teaches communication, rules of harmony lead the way to self-expression in music, and the fundamental skills in school teach individuals to think. Within a situation that calls for thought (a disruption of knowledge), an individual with articulate reading and writing skills will be in a better position to exercise judgment.

Because of the difficulties in learning the skills of communication, they require special attention. But if teaching these skills is a dynamic affair, they must relate to the process of living. A basketball player learns how to pass, how to fit in as a member of a team, and how to shoot baskets. There is a difference between learning these techniques as an exercise for its own sake and practicing them because next week the player will be involved in a game. The same reasoning applies to teaching reading, writing, and arithmetic. People cannot reason effectively without these skills, but they do not teach him to think.

The preceding general principle suggests a second relevant fact for teachers. *There is no direct way, depending upon specific materials and techniques, of teaching reasoning.* The opportunity to reason presents itself when knowledge falters. Thus, the need for reflection comes after an individual has been thrown out of adjustment. A direct appeal to an unruffled person to reason makes about as much sense as a plea to a cloudless sky for rain. For this discussion to have meaning the previously developed definition of knowledge and reason must be kept in mind. Knowledge was defined not as ideas accumulated in books, but

as intricate motivating mechanisms that become built into the natures of people. Individuals drive cars, they walk down the street, they learn lessons, they conduct a good part of their business of living because they know what to do. They do not have to think; their habits carry them forward. Reason has been defined as the union of contemplation, induction, and poetic vision. These often separate phases of thought unite when individuals choose wisely. They show wisdom in choosing when they become fully aware of the particulars of the situation causing unbalance, place this problem within the context of significant data, weigh facts against possible solutions (keeping in mind ideals), then select the best possible course of action and act. When they reason in this way, all functions of thought unite. Reason means this total act of reflection. These definitions of knowledge and reason give significance to the assertion that there is no direct way to teach reasoning.

This fact also has both negative and positive educational ramifications. Let us consider the negative side first. When teachers understand this fact, they will realize that many of the practices they now honor are inadequate. There are two deficient ways in which teachers have attempted through direct presentations to influence students' reasoning ability. First, they have offered meaty subjects—mathematics, Latin, grammar, science. Many educators believe they can teach reasoning by presenting challenging materials. They conceive of reason as something within individuals which develops as it contacts thought-provoking matter. In philosophy this concept is called "rationalism". A good part of our programs in higher and secondary education is rationalistic. This apparent emphasis upon reason can handicap students. Earlier, the habit of scholarship, when used as a retreat from reality, was discussed. The objections stated there apply here. It seems like a contradiction of commonsense, but individuals can acquire articulate habits of scholarship, in the rationalistic sense, that keep them from judging. They can think brilliantly in mathematics, science, formal logic, or moral theory without being able to face a simple decision and carry it through. Rationalistic training given in school can become so deeply ingrained into students' personalities, that when they do have the opportunity to choose, when they experience a displacement of habits, they will work off the energies created by indulging in well-organized habits of scholarship. This complicated mechanism often becomes apparent when scholars fumble in making practical and moral decisions. Rationalism in education can stand in the way of developing reasoning human beings. To the degree that students use scholarly habits as a retreat from realities, they cripple their abilities to think reflectively. Yet they get this kind of training in many schools. Despite this, many scholars learn to reason effectively. Because of this fact, teachers think their programs and techniques are sound. It is not their direct appeal to reasoning that has brought this about. Sensitive teachers challenge their students. This disrupts habits. Many students also make associations between the facts they learn in school and the situations that require reason. Because some students have actually learned to reason, teachers will defend rationalistic teaching methods without realizing how they, through stimulating their students, have indirectly implemented reasoning. If asked to describe the way they have accomplished this teaching feat, they would point to inept, rationalistic procedures.

Does this mean that systematized thought has no place in education? The answer here is the same as in teaching skills of communication. These disciplines

must have a prominent place in our education, but we should realize their limitations and not make false claims for science, philosophy, history, and mathematics. Because a direct appeal to any of these disciplines will not automatically teach people to think, it does not mean that they are not important. When the need for a decision arises, access to our heritage will facilitate judgment. Rationalistic scholarship that directs energies away from practical problems, thus allowing the everyday situation to go on without the aid of reflection, will handicap reasoning. On the other hand, when an individual must choose, he will often need to draw upon the insights of science, history, and philosophy, in order to understand his problem. When reasoning is seen as an act of adjustment that individuals carry on to reach a dynamic equilibrium, the direct rationalistic approach to teaching will become modified.

Teachers indulge in a second variety of direct presentation that is supposed to affect reason. The first we called "rationalistic"; the second could be termed "empirical." Many teachers assume that students learn by way of the senses. They contend that although the ability to reason goes beyond drinking in sense data, the ideas and materials needed for thinking come out of sense experiences. These objects of knowledge—principles of science, words, works of literature—have an existence of their own. The teacher's job, in part, is to present these objects of knowledge in such a diversified and interesting manner that students acquire them. Teachers must appeal to all the senses. Students develop the ability to reason as simple sense experiences combine through inner association to form complex ideas. The primary avenue to reason, however, is sense experience.

Partly as a result of this line of reasoning, exaggerated claims are made for visual and auditory aids. Drawing on conclusions from the discussion that preceded, at this point the assertion can be made that these direct presentations neither teach individuals to reason nor do they necessarily give them the ideas needed in reasoning. To repeat, the need for reasoning comes out of a state of imbalance. From such dynamic situations, individuals strike out to institute balance. They use their senses throughout the entire reasoning process to make contact with materials and ideas. The entire affair is active. It is not the mere drinking in of ideas that this naive empiricism depicts. The effect sense impressions will have depends upon whether or not they are caught up within the context of an ongoing adjustive activity and how they relate to the stock of information the individual involved has at his command. What the thinking person is as a person sets the scope of the impression sense stimulation will have. Its meaning depends upon how it is integrated into an ongoing activity. Thus, what it means depends upon the kinds of relationships a thinking individual undergoes with the sense data and how he works these into the reasoning process.

Direct sense stimulation can start a reaction that will require reasoning. This does not mean that they directly give objects of knowledge or materials for reasoning, but that they can stimulate or throw an individual out of equilibrium. Even this function is not a direct one. The adjusting individual reacts to potential stimulation. Actually he selects the stimulus. In relation to time, the stimulus becomes a stimulus only after action has faltered, and the person experiencing the breaking down of previous habits frantically seeks to understand what has happened. Even such a violent potential stimulus as a loud sound will

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SCIENCE AND EDUCATION: THEIR SYMBOLS AND NEEDS

BY NATHANIEL L. CHAMPLIN

THOUGH VARIOUSLY CONCEIVED, human conduct is, with other possible interpretations, an affair of means and ends—purpose and control. It is an activity in which means are being related in terms of implicitly or explicitly anticipated ends. We find that human conduct, capable of becoming the subject matter of various sciences (psychology, sociology, anthropology, economics, and political science, for example) may be differentiated, educationally, into kinds of means-ends relating—purposes and controls. There are, we see, means-ends relatings of a kind peculiar to hunting, yet not peculiar to the sort of conduct at work in a baseball game. Thus, the educator, the artist, the scientist, and the corner policeman may be looked upon as being engaged in *kinds* of means-ends relatings. Indeed, a view of the human scene becomes rather striking when we realize the variety and diversity of ways in which human conduct has been disciplined and organized. Any attempt to list the different kinds of purposes and objectives—the different kinds of means-ends—faces a formidable task; humans do and have done so many different things.

Another discernible feature of human conduct is that it is symbolic. Ends-in-view, objectives or intended futures are represented in present conduct and are in some sense, an outgrowth of the past. We say or think, "I'm going home," "Uncle John arrives tomorrow," "You will find your book in the living room," "Let's determine the truth or falsity of this statement," or "Let's all go to a movie." Further, we may note that these symbols play an organizing role with respect to means and ends. They constitute a *control.* Having symbols that represent the means to a given end permits us to organize our action in such a way as to anticipate reasonably the kind of future toward which our action in the present is heading. "We see with our concepts," as Dr. B. O. Smith might put it. In wanting to go home, for example, one might have to know the route to the subway, and one might need a dime. To the extent the events-in-series antecedently necessary to getting home are symbolically accounted for in present conduct, to that extent conduct is critically controlled and directed. It is for this reason that some educators of the experimental persuasion look upon human conduct as a means-ends affair mediated by symbols. Sharing this view, this paper would hold that we can be critical in controlling our conduct only as our ends-in-view (having a date, developing a desirable kind of personality, building a free peaceful world) are conceived in terms of the means to their achievement. Of prime instrumental importance is having symbols that, in fact, represent those means—the course of action and practices involved.

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SCIENCE AND ORDINARY HUMAN ACTIVITIES

Science is to be found among the means-ends activities abroad in the human situation. We find persons engaged in scientific activities. We find that they have scientific objectives. They seek truth, we sometimes say. Wherever they have achieved their objectives, they have provided us with knowledge, tested and testable hypotheses, proven conclusions, verified claims and propositions. The orbit of Mars, the child's symbolic development or his adolescent period, the artifacts and skeletal remains in a prehistoric cave, the relative gold holdings of England and France during a fiscal year, and the consequences of pressure groups in the formulation of federal legislation are subjects about which science has constructed claims, assertions, knowledge, and hypotheses.

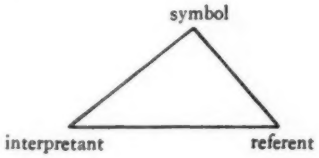
This is not to say that truth seeking and hypothesis testing exhaust the activties of a person we dub "scientist". Plainly the scientist does things other than these. He sleeps, dresses himself, eats, goes to movies, argues politics with his neighbor, and perhaps plays tennis. It is to say, however, that when organizing means peculiar to testing an hypothesis, reaching a factual conclusion, or verifying an assertion his conduct may be specified as scientific. At another time, his conduct may be labeled athletic or sporting; he may be rolling bowling balls, playing golf, or shooting ducks. In such cases, we say that he is engaged in another kind of means-ends, and we call him a scientist simply because his scientific conduct plays an important or central role among the many disciplines or means-ends relatings he practices (or *is*).

Our attention, in the present inquiry, is to the ways in which human conduct has been disciplined rather than to the number or variety of disciplines or practices a particular human may enjoy. One human, suffice it to say, may engage in any number of the kinds of means-ends relatings upon which we presently dwell.

The objective common to all sciences is assertion making, conclusion drawing, and proposition forming; and each science is a case of a *kind* of assertion making, conclusion drawing, and proposition forming. Each is a kind of knowledge forging, hypothesis testing, and prediction constructing. Thus, we have physiological and biological knowledge, economic and astronomical facts, geological and biological hypotheses, and historical and anthropological reports. We sometimes call these bodies of knowledge—meaning, of course, the fruits of the inquiries of these sciences. All are the same in the sense that all are sciences and proceeding according to scientific method. Each is different in the sense that each is proceeding with different problems, subject matters, concepts, and terminology.

Since terminology, concepts, and symbols are so central to science—propositions, knowledge, and hypotheses being built with symbols—it is not surprising to note that the controls (that which guides scientific symbolizations) center in the formal relations between symbols. The *controls* for science, that is to say, are found in those requirements to be met by the symbols used so that warranted and testable assertions, conclusions, and knowledge become formed. Thus, the symbolizations of Galileo (astronomy), Darwin (biology), and Keynes (economics) must have a common character if they are to be called scientific and not, for example, poetic or mystic.

Some inquirers (notably Peircian pragmatists) have proposed that this common character of scientific symbol elaboration is rendered clear in the accompanying diagram. This triadic construction sets forth the requirements of symbol as involving (1) an object of some sort to which we assign the term *symbol* (in many cases of sound eminating from our lips or a word written upon a sheet of paper or blackboard), (2) something other than this object to which we assign the term *referent* (that is, what the symbol represents, as the term *paper* represents the material upon which these sentences are being written), and (3) something that *connects* the two—something that establishes the relationship between the symbol and its referent—the interpretant.



Let us take an illustration. A child asks, "Mother, what's a zebra?" The child has, we would say, a noise, a sound he is able to make. His mother has, we shall say, not only the ability to make the sound but also the "meaning" (what it represents) of the sound. She decides to take the child to the zoo. At the zoo the mother points to an object and tells the child, "That's a zebra." The child now has the referent for the term or noise. But now the child responds with, "Why I knew what a zebra was all the time; I saw one in the movies yesterday." And the mother answers, "Then why did you ask?" The child then replies, "Well, this morning, Mary said lions eat zebra meat and she made fun of me be-because I didn't know what a zebra was. Wait'll I see her. Why, I knew all the time what a zebra was."

But is this the case? Did the child know what the term or noise referred to? True, he had experienced the referent for the term *zebra* in one situation, the movie; and he had experienced the term or noise in another situation, playing with Mary. Thus, at two different times he had experienced or confronted *two different objects*. What he did not have was the interpretant—that which connects the two. The mother provided the connection or the relatable item when she pointed and said, "That's a zebra."

Nor does this imply that the interpretant is the mother. The interpretant is the conduct of the mother *as that conduct does the connecting for the child*; and upon analysis we find that interpretant taking on the character of being *another* group of symbols. For when the mother's conduct exhibited the pointing and "That's a zebra." it was supplying that which connected two entirely different objects—the noise and that to which the noise referred. *"That's a zebra" is the body of symbols that did the connecting. The interpretant, then, is another body of symbols which, in this illustration, would be formulated more accurately with, "Zebra is the name we give to that (pointing).* Thus we say that the child did not "know what a zebra was all the time." For the noise *represented the relationship between interpretant and referent.* The child did not have that relationship. (To say "That is a zebra," is to mis-educate the child; for it implies a symbol-object identification or abstraction.)

If the child were French, German, Italian, or Chinese the symbols and interpretants would be different, perhaps, but the referent would be the same. That is, the referent, in this case the referent for *zebra*, may be confronted by any human. It is empirical. Indeed, it is because the referent is empirical (publically available) that individuals of diverse persuasions can come together and communicate as in the case of a French and Chinese astonomer, a German and English biologist, and a Norwegian and Italian physicist. The task of the translator centers in transposing symbols and interpretants so that communication may take place as witnessed in the discovery of the Rosetta Stone. (It is because the referent is empirical that individuals of different nations and linguistic systems can come together, share their experiences, and arrive at common destinations, as is the case when the Frenchman, Russian, and the Englishman, upon reading varied language tables of directions, may *all* arrive at Assembly Room B in Corridor 6 at the United Nations Building. In short, the triadic requirements of symbols are the basic minimal requirements for the construction of a common and shared end-in-view. One of the tragedies of our times is to found in those cases where diversity seeks consensus utilizing symbols that block communication and shared meaning—symbols that fail to meet the requirements of the triad herein advanced.)

To return to our illustration: When the child begins to make assertions about the zebra—"The zebra has stripes," "It looks like a barber-pole horse," "Lions eat zebra meat," "The zebra lives on the African plains and in American zoos"—he is using symbols meeting the requirements of the triad—no more and no less than do the symbols of Galileo, Darwin, Pasteur or Keynes. He is using his symbols in the way a scientist does, even though his conduct may not be disciplined in the manner of science: and we do the same when we plan on meeting a friend, taking a vacation, or buying a new suit.

In order to test or assess ideas, propositions, beliefs, or, for that matter, predictions we find ourselves depending upon other ideas—other bodies of symbols. Suppose we take the mother's idea, "I'm going to take my child to the zoo." First, we see that it is different from the practice it represents, that is, different from what goes on when the mother is engaged in the taking or going. Second, if prediction is to take place, more symbolizations are needed. Time schedule, location of the zoo, bus route, money and other matters are involved. The mother is able to predict reasonably (to herself or to a neighbor who may want to meet her at the zoo) that she will be at the zoo at a precise time in the degree she has symbols accounting for the means (sometimes called needs). Thus, equipped, she may go on to predict the nature and character of that future with some degree of probability. This prediction itself is thus another body of symbols. *It is tested, moreover, by still another.* That is, the test involves (1) putting into practice the procedures represented in the initial idea or prediction and (2) *reporting upon the state of affairs present when such action takes place.* The testing of the prediction goes on when the report upon the prescribed activity is set in relation to the initial idea or prediction. Thus, it is that Peircian Pragmatists look upon an idea *as a plan of action (symbols) to be tested by reports (more symbols) upon its consequences in action.* Another way, the relationship between the report upon the action prescribed by the idea and *the idea itself* constitutes the subject matter for scientific testing.

Suppose, to clarify further, we turn to the following groups of symbols:

1. We do not know what electricity is.
2. People walk on clouds.
3. Wappashatti will end the world on January 7, 1997.

We say that No. 1 is testable because "do not know" refers to an absence of reports and assertions—in human conduct—about electricity. Electricity refers to something other than itself and is confrontable as we place a wet finger in a light socket or observe lightening. It is confrontable by the man who sits in the electric chair—by the housewife who shorts out the electric toaster cord. No. 1 might then be judged false in view of other testable assertions; and in order to render No. 1 true we might reconstruct it to read:

1. We have no hypothesis that organizes or accounts for all that we know about electricity.

This statement is, like the other, testable, and upon testing it we will find, probably, that it is true.

We find that No. 2 is testable for the same reasons. *People* has reference to objects alternative to those referred to by the terms *lake*, *sun*, *tigers*, and *trees*. *Walk* refers to something other than sitting, lying, or running. *Clouds*, too, has empirical reference. Next, we are able to locate many other symbolizations—tested ones—about people, walking, and clouds. Such things as weight, gravity, and the composition of clouds are considered. We may use a dummy or a person equipped with a parachute (just in case) to test the ideas by reporting upon what takes place when we push a dummy of X weight from a plane. Whatever the case, through relating "people walk on clouds" to a range of other, but tested, ideas, we may arrive at two assertions, one of which, supported by evidential reports, is contradictory to another, unsupported by evidential reports. Thus:

1. People walk on clouds.
2. Clouds cannot support the weight of a person or a collection of persons.

Our initial idea would then be relinquished by those employing the scientific method. Only those individuals utilizing tenacity (holding a belief in spite of evidence to the contrary) or some method alternative to science would assert this idea to be true. Scientifically we say that the proposition, "People walk on clouds" is a false proposition, whereas the proposition, "The proposition that 'people walk on clouds' is a false proposition" is a true proposition. In each case, of course, *truth and falsity is assigned to an assertion.* In the first, the assertion is about something other than an assertion. In the second, the assertion is about an assertion. Scientific truth, that is to say, is assigned to the *report upon* an event, practice, state of affairs, or assertion.

As we attend No. 3, however, we find a different state of affairs. The term *Wappashatti* appears to have no referent except to this writer. It refers, "I" maintain, to little blue devils shaped like hippopotami but bearing characteristics of human posture and carriage. They are tiny and escape detection by the most

precise instrument now, or in some conceivable future, at our command. They make wrist watches function, guide descending tree roots around obstacles (stones in the earth). They communicate only with those who understand their language (this writer), and through this communication they provide the moral directives for mankind. Those with whom they do not communicate are nevertheless guided by Wappashatti. Scientists discover, soldiers kill, children learn, artists create, and the earth spins out its course in the cosmos only because of the choices and the directions initiated by Wappashatti. Reality itself forms according to the directives of Wappashatti. Occasionally, a stray Wappashattus (the singular) will reveal to man a bit of truth, a bit of the forming principles; and where the theory of relativity was revealed to Einstein and selected others, the theory of the historical tenure of the earth was revealed to this writer.

We find, thus, many assertions about an alleged referent for *Wappashatti* in the above. We can construct others. However, in no case do we have other than more words in the place of the referent. True, we may have a drawing or painting. But, to assert that Wappashatti do what they do would be, in this case, to assert that the painting does the doing. Moreover, to assert that (1) We don't know whether or not they will, (2) We have no evidence for or against the presence of Wappashatti, (3) Wappashatti do not exist, (4) Wappashatti do exist, or (5) We don't know whether or not they exist is to render equally meaningless statements; for in each assertion the terms *they* or Wappashatti appears *minus empirical referents* or minus the referents it is alleged to have. We are driven, as a last logical resort, then, to consider whether the *words* will do the ending or whether the words act in the ways prescribed in the above narrative. Plainly, they do not. All assertions would have to be rejected as *neither* true nor false. They would have to be rejected as untestable; and to say either "the proposition 'Wappashatti will end the world on January 7, 1997' is true" or "the proposition 'Wappashatti will end the world on January 7, 1997' is false" is also to make scientifically meaningless assertions. The initial proposition is *untestable*. It is ruled out of science.

This now brings us to a point where we may forward some generalizations about science and symbols. On the basis of the foregoing, we offer the following:

1. Scientific purpose centers in the construction of tested and testable organizations of symbols.
2. Scientific testing goes to work only upon symbols meeting the requirements set forth in the triad—symbols that are organized into statements and ideas—symbols to which we may bring evidence (more symbols).
3. An idea or hypothesis is a plan of action (symbols) to be tested by a report (more symbols) upon its consequences *in* action.
4. Scientific controls are criteria of symbolic procedures. Called logic, the methodology of science is the formulation of the formal principles guiding the relating of symbols.
5. Truth and falsity are characteristcs of reports, assessments, assertions, or propositions which, in their turn, are symbolic constructions.

6. Ideas are tested in the future (even ideas about ancient Greece).
7. To know about anything (one's own conduct, the moon, the method of science, the intelligence of children) is to be in a position to make a warranted and testable assertion that is composed of symbols making reference to that which the assertion is about.

THE DIFFERENT SCIENCES: THEIR NEEDS

Sciences such as sociology, physiology, history, economics, biology, physics, psychology, and anthropology seem to be different kinds of means-ends activity aiming toward reliable knowledge. Each has unique ends or purposes, and each utilizes unique means. Consider, for example, the following articulation of an end-in-view: *The hypothesis that the orbit of Mars is elliptical accounts for all that we know of the successive positions of Mars. The problem now, is to determine whether or not this hypothesis applies to the orbits of all planets.*

Let us picture ourselves walking down a school corridor. From classroom A we hear a lecture going on; and the lecture is comprised of symbols of the sort used above. We are informed, we'll say, that the class is one in economics. Would we not question this? Perhaps we would pause and listen. We hear:

> "Let us begin with Venus, the easiest of the, planets to identify. Twin to the earth, its mean diameter is estimated to 7,575 miles. Now, although telescopic penetration to the surface of Venus has yet to be achieved (it's atmospheric surroundings are so dense, you see), Lyot and Mendon have provided the following data about the planet . . . . "

Surely, we would question our informant about the accuracy of his report. Proceeding further, to classroom B, we hear the following:

> "Distributive tables of private incomes must be adjusted for transfer incomes; and these involve National Debt interest, social security, and pensions. Such adjustment is indicated, too, when we want an estimation of the amount of undistributed profits. Take, for example, the pre-war Government income from property—44 millions . . . . "

Our informant now tells us that this is a class in archaeology. Clearly, there is a question of naming. Reverting to our triad, for a moment, we may place the term *astronomy* at the top (symbol) and the above body of symbols on Venus at the lower right (referent), and *this represents this* at the lower left (interpretant). We do the same with the term *economics* and the body of symbols on distributive tables. Our informant, however, has (implicitly) placed the term *economics* where we have placed the term *astronomy* and the term *archaeology* where we have placed the term *economics*.

One of two things has happened. Either our informant has been educated to use a name alternative to the one we have learned to use in naming an object (in this case the symbols we hear), or he, through lack of knowledge, is merely guessing. He may, of course, be "pulling our leg" or attempting to confuse us.[1]

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[1]See George Orwell, *1984*, New York: New American Library (Signet Books).

But this mis-naming is no more and no less different than were he to hand us the referent for the term *chalk* when we asked for a ruler and hand us the referent for the term *ruler* when we asked for a pen. So it is when a person says, "What is democracy for you is totalitarianism for me," "What is red for you is blue for me," "What for you is an expression of anger is, for me, an expression of sorrow and depression," and "What is fact for you is not what is fact for me." By thus playing with or arguing about the symbols in the upper part of our triad and failing to consider the empirical status (humanly confrontable character) of the referent and the connecting status of the interpretant, individuals are nurturing confusion, blocking communication (shared meaning), and relying upon referentless dialecticizing.

The point that we are stressing is that the terms on this very page and the noises we make when we articulate them (e. g. *economics*, *biology*, *astronomy*, *archaeology*) are symbols that have as their referents different symbolic procedures of the sort provided above. Furthermore, these procedures have had different histories. Astronomy, for example, has had a longer career than economics, biology, or psychology. Indeed, the very term *biology* didn't appear until the early part of the 19th century. The "physical" sciences, physics, mechanics, optics, geography, astronomy, anatomy, physiology, and their central methodological resource, mathematics, appeared earlier than the "social" sciences. They were extensively developed prior to the 18th century—long before economics, biology, anthropology, and sociology gained status as kinds of scientific procedure. The sciences, that is to say, are different kinds of symbolic procedures; and these symbolic procedures—thoroughly empirical and available for inspection—are different avenues to knowledge, facts, truth, and hypotheses.

There is, then, a sort of human conduct that can be called scientific. Ends, purposes, means, and "needs" are further differentiations of this kind of conduct, just as they are of any other kind. But in the case of science we may qualify them in such a way as to assert (1) that there are economic, archaelogical, astronomical, biological, physiological, and psychological purposes in or reasons for human conduct, and (2) that there are economic, archaeological, astronomical, biological, physiological, and psychological requirements or needs (necessary means) for that conduct. Several generalizations are thereby suggested:

1. For human conduct to have scientific purpose is for it to aim toward the construction of tested and testable hypotheses, predictions, and assertions.
2. For human conduct to have scientific needs (requirements) is for it to require (1) the controls peculiar to scientific procedure, and central here is the need of symbols meeting the requirements of the triad, (2) knowledge that has been provided by one or more of the sciences, as economic needs (necessary means) for that conduct.
3. For human conduct to have psychological, economic, or biological purposes is for it to proceed (1) toward the construction of testable and tested hypotheses and (2) within the universe of discourse or *with* the symbols peculiar to psychology, economics, or biology.

4. For human conduct to have psychological, economic, or biological needs or "wants" is for it to require (1) the employment or the method of science and (2) the employment of categories and symbols *peculiar to* the universe of discourse, psychology, economics, or biology; or it requires knowledge (tested symbolizations) provided by psychology, economics, or biology.

Not all people then, have scientific purposes or needs. Only those seeking scientific truth, *needing* the method of science, and/or needing knowledge provided by science can be said to have biological, economic, or psychological needs; and only those who aim toward making warranted assertions—constructing tested and/or testable hypotheses—can be said to do things for scientific, psychological, or economic reasons and purposes.

What is it we say, then, when we assert that the infant is born with certain basic biological and psychological needs? Analysis yields that we are saying the infant is born with scientific purposes in general and biological and psychological purposes in particular (that is, the infant is born a biologist and psychologist) or we are saying that the infant has need of or requires knowledge provided by the sciences of biology and psychology (since these are, *in fact*, sciences).

Nor are we assisted when we receive rejoiners to the effect that the infant is born with certain basic needs, "call them what you will", among which we find food and shelter. The assumption here is that the infant is born with a purpose—to live or survive; and this argument reduces itself ultimately to the dialectic surrounding the terms *drive, instinct, innate feeling, or inner wants.* We are thus placed outside the domain of science; for, like *Wappashatti*, these terms refer to more terms and so one. *Wherever we find the referent for the term need, we find purpose qualifying it as a need in the first place; and, in order to have a purpose, an individual must have symbols that represent.* The infant must (1) already have experienced food and shelter and (2) gained (learned) symbols. *Then* he may purpose and need.

What we *do* say, it seems to this writer, is *that, in order to live* or *if he is to survive*, the infant needs food and shelter. But now these needs are being established by *our* purposes and not those of the infant. That is, *adults viewing the infant are needing and purposing for the infant.* To say in effect that, if the infant is to live and be healthy, he needs food and shelter is to make a tested and testable assertion. To say that the infant is *born with* needs, drives, instincts, or wants is, in effect, to move into pseudo-meaning—less symbolizations and out of the domain of scientific conduct. Reification takes place; that is, *we* (1) determine that the infant needs food and shelter if he is to live and (2) put something (dialectically) in the infant that is doing the needing and wanting. (It is one thing to say the dog runs to the food—the infant stops crying when fed. It is quite another thing to say the dog has an instinct—the infant has a drive or want).

Another consideration appears. Food and shelter are, if they are biological needs, also economic, archaeological, philosophical, and singing needs. That is, in order for these kinds of conduct to go on, a live, breathing, and food consuming creature is needed. Food as a biological need would then be a meaningless consideration. Economic assertions may be made about the referent for the term food; and anthropological ones as well. Food and biology come together, or food

and economics come together in needs discussions only when there is need (1) to have knowledge about food that is constructed by biology or economics or (2) to make assertions about food as food is qualified by the universe of discourse, biology, or economics. Other than this, notions of food as basic biological needs spell out confusion or provide a dialectizing that has, not doubt, *other than scientific purposes.*

It is, finally, as defensible to say, that the infant is born with basic astronomical and archaelogical needs as it is to say that the infant is born with biological and psychological needs. Stated simply, and scientifically, these terms refer to different sciences—different symbolic procedures having varying histories— nothing else. Only the uncritical and unscientific use of language would have it otherwise.

EDUCATIONAL NEEDS AND PURPOSES

Education, in some discussions, is said to refer to ends and purposes that have to do with changing, modifying, or developing human conduct itself. Some inquirers would hold that all human conduct is educational, since it issues in modification and change in human conduct. But for purposes of locating the discipline of education, it is important to center attention upon purpose and objective. Consider, for example, the father who has filled and lighted his pipe in the presence of his five-year old son. His attention, on these occasions, has been to the newspaper editorial, radio program, "day dreaming", or the child's mother. Now suppose, upon entering the living room, he comes upon his son who has filled and is now attempting to light the pipe. The father says, "Johnny, put the pipe down. You mustn't do that."

Now, in two cases (assuming that Johnny has not had access to pipe-smoking in other contexts), the father is modifying or changing the boy's conduct. But only in the latter case is he doing this purposefully and deliberately; for here the *objective* to change the boy's conduct is to be found. Since both are, in some current circles, called educational or educative, we may distinguish the appropriate practice as deliberate education—modification or change. Where we find human conduct, that is to say, *deliberately* and *purposefully* directing, modifying, or changing human conduct, we have deliberate education. Thus it is that we grant credence to notions of self-education and institutionalized education. In the former, we might have a case where a person is deliberately changing or modifying his own conduct, as in the case of improving one's logic, swimming, boxing "techniques", or teaching procedures. In the latter, we may have a group of individuals deliberately attempting to modify one another's conduct or the conduct of individuals other than themselves. In either case, the procedure of purposeful modification can be singled out for critical attention and discipline—as we attempt to do in our schools.

Educational objectives, like any other kind of human objective, become conditioning factors in establishing needs. Called educational needs, these would be the requirements to be met if educational objectives are, in fact, to be achieved. What are called "student needs" are, more precisely, differentiations of educational needs. They, like administrative needs, curricula needs, scientific needs, or

architectural needs, constitute kinds of requirements that must be met if specified educational objectives, purposes, or ends are to be realized. Therefore, in order to locate the aims and purposes of education, one has but to turn to the educators themselves—to those formulations of purposes and ends that are abroad in educational practice.

A view of the educational scene (including the literature) permits the location of differing sorts of symbolizations that stand as the objectives of education. First, we hear that education is designed to meet "the needs of the student" or "child". This suggests that the aims and purposes are had by those to be educated. This is difficult to understand, inasmuch as it may imply that those to be educated have already been educated to do the educating. We observe, moreover, that these needs are being made articulate *by the educators*. Furthermore, we note that curricular constructions flow from what the *educators* hold to be "the needs of the student" or "child". Where we find those needs specified, is to say, we find either (1) that educational objectives are being called "student needs," or (2) educators are failing to articulate the objectives that qualify needs *as needs*. *Nowhere* do we find cases where the students (1) formulate educational objectives and curricula or (2) provide educators with guides, criteria, procedures, and objectives for student nurture. Even in classrooms where the educator "lets the class decide", it is the educator *doing the letting. The educator chooses to proceed in terms of what the students choose or decide.* He chooses this objective alternative to other possible objectives.

A second symbolization about educational objectives states, in effect, that environment, society, or culture determines the objectives, ends, or goals and, hence, needs of education. Here we have a categorical confusion; for education is an institution in and of society or culture and not something additional to or apart from society or culture. Putting it another way, the very term *society* or *culture* refers to, among other things, the institution of education. Moreover, educators are making their choices within a society or culture; and by so doing they are, at one and the same time, contributing to the kind of society at hand and to its future character. It is the educator who is doing the determining insofar as people choose. Wherever we find educational objectives, we find bodies of symbols that have been constructed by people. True, these choices may be reported upon by the disciplines of historical anaylsis, sociology, anthropology, economics, and political science; and we may gain many insights into the nature and character of the choices being made—the objectives being formulated. But our point is that it is the educator, choosing from among the alternatives within his culture, determining the nature and character of the desirably educated or well educated (in some circles called the "well-developed individual" or the "well-integrated" personality).

A third symbolization on objectives has it that "our task is to develop the full potentialities of the student" or "child." But, here too, we face analytical difficulty. For the newborn infant is potentially many kinds of human, as William James so accurately observed. One cannot develop potentialities without failing to develop potentialities, one cannot foster growth without hindering growth, and one cannot nurture without failing to nurture. Finally, and this is the central objection, *Science has never located in the newborn infant a discernible undeveloped antecedent to what it will humanly become.*

A fourth symbolization on objectives attempts, in one way or another, to locate the source of educational objectives in terms of one science (usually psychology), a collection of sciences, or in a curious mixture of scientific language. Psychological, economic, cultural, biological, mechanical, or neurological "forces" or elements are said to do the determining. This, upon analysis, is making of the sciences something alternative to what they in fact are, namely, different modes of inquiry—universes of discourse or knowledge gaining procedures. (*Forces* is a peculiarly mechanistic symbol—created and accorded scientific status in mechanics and physics. The same is true of *tension*, *release of tension*, *motion*, *mechanism*, and *adjustment mechanism*. Framed in the mechanical and physical sciences, these terms were taken over by Realist-Materialist philosophers. For example, Hobbes was one who held that they were applicable too, to human conduct and not only to planets and bodily motions; hence, *motion* and *e-motion*). Quite tragically, some educators have cut across these universes of discourse, looting them of symbols, and have come up with what appear to be scientific pronouncements, but which are really meaningless usages of scientific language. *Pseudo science results*; and by pseudo science we mean raiding the different sciences of some of their symbols, putting these symbols together into grammatically correct statements, and using them for something other than what their "owners"—the different sciences involved—use them. (Taking the Peircian triad as a tool and skimming through the texts of different sciences, one will find, particularly in psychology and sociology, cases of this sort; and the important place accorded educational psychology in the educational curriculum indicates one source for pseudo science in education, and one way in which students become indoctrinated with the philosophy of materialism and sense-realism).

A further consideration is indicated: According to elaborations consistent with "the sciences determining the needs of the child", there is a "whole" or "total" child or personality and, for that matter, a whole or "total" reality. These wholes or totals (clearly a quantitative concept) are held to be made up of "complex factors" or "elements". The whole child, this theory continues, is made up of psychological, biological, intellectual, emotional, physical, mental, and motor elements, factors, forces, energies, or complexities. We educate for the "whole", "well-integrated" or "totally adjusted" child and, continuing with the theory, the different sciences provide "part" knowledge or, for that matter, the parts or elements themselves. Upon examination, however, the "parts" turn out to be (1) bodies of assertions about the child, symbolizations couched in terms of different universes or discourse and meaningful only in terms of those universes of discourses or (2) scientifically sounding assertions that are actually pseudo-scientific. Rather than being in the conduct of the child, *they are in the conduct of those making the assertions* about the child or education. *Moreover, all the knowledge possible doesn't "add up" either to a "total" or "whole" that is the child or to a formulation about how that child is to be educated or ought to be educated.* Notions of a whole, integrated, or total child are therefore to be questioned as defensible educational symbolizations.

The theory that has the different sciences providing "parts" of "elements" of some wider "total" or "reality" raises similar questions. Is it possible, we might ask, to "add" the knowledge provided by economics to that provided by physics, astronomy, and political science? What is the relation between an assertion about the orbit of Mars and an assertion about the relative gold-holdings of

England and France during the fiscal year 1936-37? How is an assertion about cancer and neurological connections relatable to Russian airplane production in 1952, and how is an assertion about the Republican platform for 1952 relatable to an assertion either about skeletal remains in a prehistoric cave or about sex practices in a south sea island culture? *What the sciences do is to provide predictions in different universes of discourse relevant either to the universe of discourse involved or relevant to the kind of problematic context (means-ends) at hand.* Talk of "whole" or "total" pictures of reality or of the child is an affair of philosophical preference; and, in this case, a preference either for Idealism or Realism, but not Experimentalism, Pragmatism or the *method* of scientific inquiry. (This preference has left us with the legacy of description—become—prescription—a case where what is and what is *possible* is treated as what *should* be and what *ought to be done.*

Fifth, and finally (though this by no means exhausts the different educational objective symbolizations one may find), we find claims to the effect that the *method* of science determines the objectives of education. Here, again, we find inaccuracy of statement; for science (the method) determines what is needed *only when the objectives have been selected.* Assuming A, B, C, D, and F to represent alternative possible objectives, then science may move in as a discipline and say, "If A then these must be accomplished," "If B, then these must be accomplished. But science does not indicate which objective one *ought* to have. It indicates *alternative possibilities* with respect to the means and ends of human conduct, but not which one ought to be selected. It does not specify that the child *ought* to think independently and logically, in accordance with the doctrine of a particular group, institution, or church, or in accordance with the tenents of a conspiritorial movement. Once the objective is selected, the educator may turn to the sciences in terms of their resource status—their means contribution. In such a case, we may say with accuracy that the educator has his scientific needs—one of which may be the use of the method of science and another of which may be knowledge provided by sciences, as when we think of psychological or biological needs of education. To say that education has need for the use of the method of science is to say that education has a *methodological* need. To say that education has need for including the sciences of biology is to say that education has biological and psychological or knowledge needs.

To say that education is a science—or that its aims and objectives are determined by science—is to say that education has as its objective the construction of tested and testable hypotheses and knowledge. This is to do nothing more than take the term *education* and employ it as a representative of that conduct for which we already have an adequate term, *namely*, science. It fails to note that there are different objectives—means and ends—in human conduct. Science refers to one kind of means and ends—purpose and control; and education refers to another kind of means and end—purpose and control. Education is a peculiarly *normative* undertaking. It seeks to nurture, fashion, or modify human conduct. To this end it may employ the sciences—or their method. But it is not a science.

PHILOSOPHY AND EDUCATIONAL OBJECTIVES

To repeat ourselves: Reporting, describing, and predicting disciplines like anthropology, psychology, economics, biology, or administrative science do not

establish the ends and objectives of education. They do not forward criteria which ought to work in the establishment of those ends and goals. They are, however, resources or possible resources in both the establishment and achievement of the ends and goals. Indeed, the ends and goals of education—once formulated—become the basic condition of relevance in determining *whether or not these are resources.*[2] Thus, educational psychology, educational physiology, educational sociology, and educational administration become affairs in which the various sciences appear in the educational arena *to be assessed* in terms of their usefulness and practicality *as needs or means* in the achievement of educational objectives. Educational psychology or educational administration are affairs in which the procedures, concepts, and knowledge peculiar to the sciences of psychology or administration are being *evaluated by Educators.* The same is true of other sciences. (This distinguishes the role of the sciences in teacher training institutions from that in liberal art institutions.)

This should not serve to suggest that *persons* we call educational psychologists, administrators, sociologists, or historians should not or do not make these choices. It does suggest, however, that some *disciplines* or specialized competencies do not. Another discipline does. This discipline is to be found in that conduct centering in (1) concern with the procedures, resources, and goals for education and (2) evaluation of criteria and grounds for the selecting of these procedures, resources, and goals. When conduct is thus oriented, it is alternative to other kinds (the sciences, the fine arts, athletics, the teaching of mathematics, etc.). We have, over the history of the race, come to distinguish and name this conduct *philosophizing.* Individuals since Greece have singled it out and disciplined it as *philosophy.* (This is not to say that competence in one discipline precludes competence in one or more other disciplines).

What we are stating is that among the ways in which human conduct has been organized and critically disciplined—specialized—we find a practice involving (1) the examination and forwarding of criteria and grounds for the selection and rejection of procedures, resources, and goals (called value choice and judgment) and (2) the articulation and evaluation of the criteria and grounds upon which choices *are being made.* We have philosophical conduct, then, when we have:

1. an articulation, creation, examination, and projection of the criteria which guide assessments and choices being made in human conduct; whether in education, law, art, or historical analysis,
2. a unique mode of discourse including as terms, *meaning*, *method*, *teleology*, and
3. a scholarly acquaintance with knowledge and data that is relevant to the practice which the philosophy is *of*, i. e., education, law, art, or historical analysis.

The philosophies of education, art, science, religion or history may then be viewed as distinctive philosophical disciplines achieving their distinctiveness by virtue of (1) the kinds of symbols they use and (2) the kinds of human conduct

[2]One familiar with the work of Francis T. Villemain will see quickly that this point is taken almost bodily from his thought in the matter.

they scrutinize. Where the philosophy of art deals with the alternative criteria and guides at work in artistic choices and objectives, and the philosophy of science (logic) deals with alternative criteria and guides proposed for, and used in, knowledge gaining conduct, the philosophy of education critically examines the alternative criteria and guides at work *in* education and the alternative possible criteria and guides *for* education.

We may, through contrast and comparison (of symbols), locate different grounds and criteria upon which procedures, resources, and goals for education are constructed. We may note in current educational practice (including the literature) that these differences permit us to state that there are different sources for the grounds and criteria by which educational choices are made. The terms *Sense-Realism*, *Realist-Materialism*, *Realist-Thomism*, *Idealism*, *Jamesian-Pragmatism*, *Peircian-Pragmatism* and *Experimentalism* are being used to distinguish these different ranges of philosophical criteria. Some inquirers claim that the three terms *Idealism*, *Realism*, and *Experimentalism* are sufficient since some of the other terms refer only to aspect modifications within only three philosophical positions. The point to drive home, however, is that the philosophy of education, science, art, politics, or history may be qualified as a Realist, Idealist, or Experimentalist philosophy of education, science, art, politics, or history. This leads us to say that, while education is nurturing, modifying, or changing human conduct, practices, activity, experience, or behavior, one or several theories of adequate and valid criteria, aims, and purposes are *implicitly or explicitly guiding that nurture and modification. Making these articulate, assessing them and their possible alternatives and forwarding proposals about them is the unique function—the especial task and competence—of the philosophy of education.*

It now appears, in summary, that the establishment of the aims and objectives of education is guided by the value criteria of those making the choices. When a person on a board of trustees, in an administrative post, in a department of an institution (psychology or economics, for example), or at a P. T. A. meeting forwards the objectives of education he is engaged in a value undertaking—irrespective of his training or his competence in philosophizing, irrespective of his understanding of the symbolic meaningfulness of what he says, and irrespective of his understanding of the nature and character of the educational undertaking. If he is to be critically intelligent about this objective, i. e., to formulate or criticize educational objectives and procedures, *then he has need for the discipline of philosophy*. He needs to have competence in and with the discipline of the philosophy of education. *He has philosophical "needs".*

Finally, a society that locates the seat of moral-normative authority in its individual members is a society committed—rather than to the philosopher, king, or elite—to the discipline of philosophy as a shared public competence. Education "tunes" itself to this kind of society as it recognizes and acts in terms of providing for *philosophical "needs"* which are the most central and basic child, student, teacher, character, personality, and citizenship "needs" for our society in these times.

MORE BLIND SPOTS IN EDUCATION

BY PHILIP G. SMITH

THE ARTICLE BY RICHARD KNOWLES MORRIS, "The Blind Spot in Education"[1], is a laudable effort to cut through some of the confusion and obfuscation that presently surround "the debate over American Education." Professor Morris's opening remarks concerning the nature of the debate and its significance are excellent. Unfortunately they lead only into what may be merely one more illustration of a kind of "blindness" in the thinking of certain critics. Morris speaks of experimentalism as "The dominant philosophy of education"[2], and then discusses two basic assumptions which he claims are "held by experimentalists in education."[3] He does not tell us what grounds he has for claiming that experimentalists actually do hold these two assumptions. He merely assumes that they do. He also assumes that, "it is these assumptions that dictate the aims, methods and curriculum to be adopted."[4]

Is it not possible that these assumptions which Morris makes constitute a rather important "blind spot"? More specifically, is it not possible that Morris (and probably many other critics) are "blind" first, in assuming that experimentalists do assume what it is generally assumed they assume, and second, that present curricula and practices of the public schools are derived from or dictated by these (or any other) philosophic assumptions? Let us examine, first, the two basic assumptions which Morris fancies as experimentalist assumptions, and then look at one or two other statements and assumptions which are made in the course of his article.

ASSUMPTIONS ON EXPERIMENTALISM

We are told that experimentalists assume, "(a) Knowledge is not representative, but immediately given in process."[5] Whence this notion? Surely not from the writings of John Dewey. A quick glance at Dewey's *Logic* is enough to dispell any such assumption of "immediate knowledge." For example, Dewey writes, "...all knowledge as grounded assertion involves mediation... The position here defended runs counter to the belief that there is such a thing as immediate knowledge, and that such knowledge is an indispensable precondition of all mediated knowledge."[6] Or again, "...immediate qualitative experience is not itself cognitive, it fulfills none of the logical conditions of knowledge and of objects *qua* known."[7]

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[1]Appearing in *Educational Theory*, Vol. IV, No. 4, Oct., 1954, p. 274 et seq.
[2]*Op. cit.* p. 277
[3]*Op. cit.* p. 279
[4]*Op. cit.* p. 281
[5]*Op. cit.* p. 279
[6]John Dewey, *Logic*, Henry Holt & Co., N. Y., 1938, p. 139
[7]*Op. cit.* p. 522

Professor Morris' arguments concerning electrons, Indeterminacy and "Ultimate Reality" are weak, to say the least. He speaks of experimentalists as "devotees of science" and suggests that therefore they cannot doubt the "existence" of electrons, even though they cannot "see, hear, touch, taste or smell" them. Some study of Bertrand Russell may be instructive at this point. Russell writes, "...electrons and protons—however, have the merit that they *may* be what actually exists...electrons and protons—assuming it scientifically correct to believe in them—do not depend for their existence upon being perceived;....But although perception is not needed for their existence, it is needed to give us a reason for believing in their existence."[8] If by "devotee of science", Professor Morris means someone who is so blindly devoted, for example, that he cannot doubt the *existence* of the electron and a score of other atomic subdivisions[9]—then such a devotee is bound to be upset by the continually advancing reconstructions of science. On the other hand, if a devotee of science is one who believes with Dewey that,"...what 'science' means is simply the most authentic knowledge of nature, man, and society that is possible at any given time by means of the methods and techniques then and there available,"[10] then the hypothetical status of certain scientific concepts are not all disturbing.

When Morris (or anyone else) is tempted to suggest that his own interpretation of "the advance of modern science" somehow demonstrates the truth of his own basic philosophic categories or assumptions, it is time he gives heed to the admonition of C. I. Lewis, who points out that, "Newly discovered scientific data might make such problems of fundamental concepts and classification easier—or more difficult—but of itself it cannot solve them because, in the nature of the case, they are antecedent to the investigation."[11] Morris would have done better to investigate carefully with his readers, what he calls "able philosophical counter-arguments...developed by A. O. Lovejoy,"[12] rather than so quickly to lead us "aside". Actually, the way Professor Morris poses "representative knowledge—immediate knowledge" as a seemingly exhaustive dichotomy suggests that he has completely "missed" the experimentalist position. He thus not only fails to state the position correctly, he excludes it from his universe of discourse.

The second assumption which is attributed to the experimentalists, namely, that "(b) as a philosophical method, experimentalism is identical with scientific method,"[13] is not so completely unwarranted. Nevertheless, when Professor Morris takes this assumption to mean an "emphasis upon induction, empirical experience, and experimentation regardless of supporting and defining theory behind the experiment,"[14] or, that "according to the experimentalists, you experiment first and think later,"[15] it would seem that once again he has "missed" the position. In any event, his arguments do not show what he claims, namely,

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[8]Bertrand Russell, *Human Knowledge*, Simon and Schuster, N. Y., 1948, pp. 7–8 italics in original.

[9]See p. 279. It would seem that it *may* be Professor Morris who is the "blind" devotee.

[10]John Dewey, "The Determination of Ultimate Values or Aims Through Antecedent or a Priori Speculation or Through Pragmatic or Empirical Inquiry", National Society for the Study of Education, *Thirty-Seventh Yearbook*, Part II, p. 482.

[11]C. I. Lewis, *Mind and the World Order*, Charles Scribner's Sons, N. Y., 1929, p. 6.

[12]*Op. cit.* p. 279

[13]Ibid

[14]*Op. cit.* p. 280

[15]*Op. cit.* p. 281

"that this assumption is not defensible."[16] He shows only that scientific method is more than a rank empiricism—something which I suppose no one (certainly not an experimentalist) seriously doubts.

PROPOSITIONS OF SOME CRITICS

The fact that Professor Morris failed to close his article at the end of his excellent opening remarks rather than proceeding to display his lack of understanding of the experimentalist position would be of no great importance except that it does illustrate what may be a truly important "blindness" on the part of many critics of the current educational scene. Too often these critics seem to proceed by a kind of contorted *sorites* of *non-sequitur*—perhaps, as follows.

1. Many of the oustanding figures in recent educational work have been experimentalists. Therefore experimentalism is the dominant philosophy of education.

2. Persons who are in a position to dominate or dictate aims, methods, and curricula are therefore experimentalists.

3. Such persons often behave "as if" they believed "such and such". Therefore, "such and such" are basic assumptions of experimentalism.

4. Experimentalists (and others) have been known to remark that a person's philosophy should make a difference in his daily life. Also, there is an old wives' tale in philosophy which states that everyone has a philosophy whether he realizes it or not. Current practices in the public schools are therefore derived from or dictated by experimentalism, the dominant philosophy.

5. There is thus a one to one relationship between practices in education and philosophic assumptions. Therefore, it is to the assumptions that one must turn if he desires to assess the merits of the practices.

6. If *my* philosophy of education should become dominant, the shortcomings of the public schools would be corrected.

This kind of "reasoning" is, of course, so completely lacking in rigor—it is so "messy"—that one almost instinctively hesitates (as if longing for a long-handled probe) before venturing to examine it. We should, nevertheless dig into it at a few points at least.

The general proposition to the effect that if a person believes "so and so" then he will behave in "such and such" ways, is correct—at least in form. The movement from the "if" clause to the "then" clause is logically determinate. In step three, above, we note that the movement is in the opposite direction; it is logically indeterminate. It is a great temptation, when observing the actions and programs of some harassed public school administrator or teacher, to say to one's self, "That poor dunce behaves as if he believed, say, 'you should experiment first and think later' ". Having said this to one's self, the next temptation is to say to others, "That man's dunce-like behavior comes about because he believes 'you should experiment first and think later' ". No matter how this sort of thing is disguised, it remains the formal fallacy of asserting the antecedent on the basis of a presented consequent.

[16] *Op. cit.* p. 280

On the other hand, a philosophy, when very carefully formulated, sometimes *approaches*, in form, a deductive system or calculus. It may be presented in the form of assumptions, primitive definitions, and postulates. If so, theorms are implicit and a number of them may be made explicit. I have yet to see, however, *any* philosophic system which actually sets forth *as logically determinate theorm* a set of procedures and practices for everyday use in our public schools. Professor Morris states, "Philosophy and religion, in their most theoretical forms, have time and again dictated the course of human institutions and the practices that would perpetuate these institutions among men."[17] I submit that it has been *men*, not philosophies, who have dicated. It is men, not philosophies, who now form the aims, methods and curricula of our public schools. These men may or may not make their decisions *in the light of* basic philosophic insights. It frequently appears obvious that many of them do not employ any such insight.

Harold Rugg is not alone in observing that few educators are actively concerned with educational theory. But this does not mean that we need a great many more "philosophers of education"—a great many more persons to engage in learned discourse about first principles. We certainly do not need any more persons whose powers of deduction are so esoteric that ordinary teachers cannot possibly follow them as they explain summarily the great conglomeration of practices involved in our public schools in terms of a couple of assumptions. These assumptions presumably are then to be meekly accepted and worn in shame about the neck as a sort of philosophic albatross—a sign that these assumptions (not the deeds) have been weighed and found wanting.

We do need many, many more *educators*—administrators, classroom teachers—who have the disposition and ability to tackle the everyday problems of education with at least a modicum of philosophic insight. Philosophers and teachers, in the field of education, should be concerned with the problem of developing this disposition and ability. Each of the great systematic philosophies, when held thoughtfully, humbly, and generously, *may* make an important contribution to this development. None of them will when held as dogma which dictate particular practices whose merits are to be assessed, not in terms of consequences, but in terms of derivation. The philosopher of education, regardless of the particular set of first principles he finds most enlightening, would do well to give serious consideration to a view of philosophy expressed by one of the present "experimentalists in education."

> Philosophy . . . has the mission of helping men think more deeply about the consequences of their daily acts in order that they may with greater wisdom choose those consequences which help all men extend the depth of their thinking.[18]

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[17] *Op. cit.* p. 278

[18] H. Gordan Hullfish, *Philosophy and Education in Interaction*, Columbus, O. The Ohio State University Press, 1944, p. 13.

AN INTRODUCTION TO JOHN DEWEY

BY CONRAD P. HOMBERGER

TRY AND TALK ABOUT JOHN DEWEY to this amorphous fellow: the man on the street. He will, perhaps, recall the name, and even connect it with Progressive Education or some "liberal" cause. But here he will usually stop. For few of us realize—too few, it seems to me—that when John Dewey died recently, there ended the life and the career of a truly great philosopher.

A great philosopher, of course, has nothing in common with the popular figure of the cloistered and bloodless "professor" intent mainly on esoteric speculations and logical niceties.

A great philosopher, any genuine philosopher for this matter, is not a man who locks himself in his study to work out there some pale scheme of the world or some drab theory of knowledge. Rather he is a man deeply interested in the meaning of the world and the fate of man. He possesses an immense thirst for knowledge and he is endowed with the steadiness of mind that makes him immune to the "winds of doctrine" that ripple the air of his day. Thus he focuses on the live issues of enduring significance. He is like a vessel in that he takes in and holds all the innumerable conflicting and overlapping elements that make up the life of his period. According to his temperament he either combines the prevailing attitudes into a grandiose scheme or "system" or he attacks prevailing moods and habits and plants the seed for things to come. Often he combines both of these approaches.

DEWEY THE MAN

Taking this view of the philosopher, there is, I should think, little doubt that in our time John Dewey was one of the greatest. In my own view he was the greatest or, at least, the most interesting one. For unlike the other great thinkers of our age—such as Whitehead, Santayana, Bertrand Russell or Benedetto Croce—he alone steadfastly looked ahead, employing all his capacities and his stupendous erudition to explore the possibilities of a better life for ourselves and our children. He was never content to fortify the old bastions, but he consistently tried to erect new ones. He basically accepted his time and he envisaged a great and happy future for both science and democracy provided that they are widened in scope and applied with intelligence. Where he criticized—and he did so often and earnestly—his criticism was always constructive. He did not criticize to praise the older virtues, but to score inveterate habits and vested interests that hamper free inquiry and the application of intelligence in every field of human endeavour.

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Americans can be proud, I think, that they have recognized his greatness, and that, during a full generation, they asked for and accepted his advice and guidance in almost all major issues of intellectual and social importance.

Born as long ago as 1859—the son of a Vermont storekeeper—he began his career as a school teacher, and like every intellectual in those days he became interested in Hegel. But soon, after reading William James' *Principles of Psychology* he started in a new direction; he joined forces with the so-called "pragmatists", soon becoming one of their recognized leaders and later—as heir to the tradition of William James—giving new life and setting new and firmer goals for the movement. He taught philosophy at several Universities, but this teaching played only a minor part in the wide range of his activities and interests. Acquiring an all-embracing knowledge in the historic philosophies, in history in general, in political science, anthropology and the natural sciences, he wrote and lectured extensively on matters concerning all these fields.

Meanwhile he also became a pioneer in the field of modern education. His tenet "Learn by Doing" has proved to be a powerful stimulus towards substituting older authoritarian methods in teaching with their stress on lecturing and memorizing by an approach that emphasizes the need of developing in the student the habits of cooperation and intelligent action. The schools of all levels, from Kindergarten to College, in this country and abroad, have profited from this reform movement and its end is not yet.

In all these things Dewey's advice was always progressive, but never extreme. His judgment was always profoundly honest and based on solid knowledge. Often it was brilliant and sometimes it was prophetic. His occasional errors never stemmed from weakness, from cynicism or despair, but from overconfidence in the intelligence and the good will of men; thus they were the outcome of a faith in man that—however guarded—underlies his whole philosophy. In this he shared the typical American faith.

MAIN THEMES OF DEWEY'S PHILOSOPHY

Having thus considered the man, it should be somewhat easier to penetrate the vast and imposing structure of his thought. Still it will be best to put aside, for the moment, all detailed elaboration and application, and concentrate on the two or three main themes, the "Leitmotifs" that underlie most of Dewey's philosophy.

I begin by reminding the reader of the well known parable of the cave in Plato's Republic. There, Plato compares us poor humans with people sitting in a cave, their backs turned towards the entrance, and incapable of turning around. Thus unable to see the men that pass by the entrance, they perceive only their shadow-images as these are thrown on the wall of the cave. The meaning is, of course, that the "real thing" always escapes them as it always escapes us mortals on the earth.

I am not interested right now in the implications drawn from this simile by Plato and later philosophers of the idealistic stamp. I referred to Plato's tale

because of its basic assumption that there is something in back of what seems to us to be going on, some Absolute that can be grasped, if at all, only by special dispensation, or by a special procedure called reason or wisdom.

This assumption of an Absolute, of something back of what's going on has been the main theme of all Western philosophy since Plato, and it is possibly this that Whitehead had in mind when he said that all philosophy of the past two and a half thousand years has been but a footnote on Plato. This "something back of what's going on" has taken many different forms in the various schools of philosophic thought; but, in one way or another, it has always been present. With the idealists it has been an essence, a substance, an idea, a concept, a thing in itself, a pure reason or logic, a dialectic; with some other types of philosopher it has been a doer, an energy, a will, a force called the unconscious or the unknowable. It has been there even with the materialists and mechanists as matter, instinct, natural law or emergent evolution.[1]

The battle among the schools, therefore, did not rage about whether there was such an Absolute behind the changing world-scene—so much was usually taken for granted—but about what it was, and about how it could be gotten hold of.

John Dewey denied the validity of the assumption of any such Absolute. To be sure, he was not the first one to do so. Almost exactly 200 years ago, David Hume had brilliantly launched the initial attack against the age-old tradition of the Absolute. So impressive was this attack that, for a short while, it carried even Immanuel Kant in the same direction. In a later day, the revolts of Nietzsche and the early Bergson sprang, in part at least, from their unwillingness to view life and its potentialities under the darkening shadow of an Absolute. William James renewed the attack, and recent anthropologists have provided valuable material with which to sustain it. There were others. But John Dewey, I believe, was the first to undertake a frank and thorough criticism of the entire absolutistic tradition, and to search systematically for an alternative that would suit better the needs of modern man in the world of today.

As a key to such an alternative he pointed to the success of modern science. The intellectual revolution that made modern science possible, he submitted, consisted in abandoning the search for essences and forces, and turning instead to the

[1] That even the "theory of relativity" is very well compatible with the assumption of an Absolute, is shown in the following passage from the book *The Evolution of Modern Physics* by Albert Einstein and Leopold Infeld (N. Y., 1938). The passage is especially interesting in that it presents an almost exact parallel to Plato's simile of the cave in modern terms. The "real thing"—"reality"—now has been placed in the inside of a closed watch:

"In our endeavor to understand reality we are somewhat like a man trying to understand the mechanism of a closed watch. He sees the face and the moving hands, even hears its ticking, but he has no way of opening the case. If he is ingenious he may form some picture of a mechanism which could be responsible for all the things he observes, but he may never be quite sure that his picture is the only one which would explain his observations. He will never be able to compare his picture with the real mechanism and he cannot even imagine the possibility of the meaning of such a comparison." (l. c. page 33).

The view expressed here shows that even the greatest scientists do not necessarily approach the universe in general with the same methods they apply to their specific field. It seems still to be the task of the philosopher to work towards a more general application of such methods.

careful observation and analysis of what was going on. Neither Galileo nor Newton would have found what they found if they had searched for forces and essences. The bacteria as carriers of disease were not and could not have been discovered as long as man thought that diseases were the work of the devil or of other hidden forces.

All the discoveries of modern science have been made by patient observation and careful analysis of what is going on, and by testing the hypothetical results of such analysis by systematic experiment. Thus a solid body of knowledge has been built up and is continuously expanding. This knowledge makes possible the intelligent management of all those situations for which it is already available.

John Dewey proposed the use of comparable procedures for all other fields of human activity, especially for the field of human conduct, that is for morals and for the political and social disciplines. He urged philosophers to end their abstruse dialectical exercises on the soul, on pure reason, on the mind, and on countless other absolutes, and instead to concentrate on the observation and analysis of what is actually going on. Dewey hoped that such procedure will enable us to build, in the field of human conduct and human relations a body of reliable knowledge similar to the one existing today in the natural sciences.

The gap between the efficiency and straightforwardness in the procedures of natural science on the one hand, and the inefficiency and confusion in other human affairs—a gap so frequently lamented nowadays—was attributed by Dewey not to our devotion to a "soulless" science but, quite to the contrary, to the fact that thus far inveterate habits in thinking and feeling have prevented us from applying to human affairs in general the methods that have proved to be so successful in the field of the natural sciences.

It is the task of the philosopher to clear the way for such reorientation. One outstanding factor in this attempt is, as Dewey stressed frequently, that we turn our attention from the causes to the results of events and actions as we observe them. Thus, for Dewey, events and actions were not to be considered primarily as effects of a cause, as the end products of a process as it were. For him as for the scientist they can be observed and analyzed most profitably as instrumental in producing results and consequences. Dewey's logic pointed to the future instead of the past. The so-called "law of causality", for him, was nothing but the reflex of our experience and of our past observations to the extent that certain consequences regularly follow from certain actions or events. It is for this reason that Dewey preferred for his philosophy the name of "Instrumentalism" and later "Experimentalism" instead of the older term "Pragmatism".

In stressing the fact of instrumentality in events and actions another important factor is brought to light: the interdependence of all things, their organization in social units. "Nothing", Dewey wrote—*The Public and its Problems*, p. 22—"has been discovered that acts in entire isolation. The action of everything is along with the action of others...the life history of an animal cell is conditioned upon connection with what other cells are doing. Electrons, atoms, and molecules exemplify the omnipresence of conjoint behaviour."

That every human being owes his life, his language, his attitudes, and his livelihood to the conjoint action of others in both the past and the present should

be obvious. The individual exists only as a member of some group. Morals or Ethics are by implication social and can be studied profitably only as such. Conscience as well as Freudian complexes are socially conditioned, so even are organic wants as far as they are differential.

While it is true that the immediate cause of every action lies in the individual, the consequences will inevitably affect others. Concentration on instrumentality, on consequences, instead of causes will, therefore, lead to a "shift in the emphasis of philosophy from the salvation of the individual to the reconstruction of society". (*The Public and its Problems*, p. 102.)

For Dewey himself this is perhaps the most vital point of his whole philosophy. It is from here that he was driven to become a reformer in education and a counselor and guide in so many issues of the political life, national and international.

THREE VITAL QUESTIONS

I hope that, after this cursory exploration of Dewey's main themes—rejection of the absolutistic tradition, stress on instrumentality, significance of "conjoint behaviour"—a foundation has been laid for a brief discussion of their applications. Let us ask, then, what would be—for Dewey—the answers to the three most vital questions commonly spoken of as making up Philosophy according to the tradition of Western thought; namely:

> "(1) What can we know?—(2) What ought we to do?—(3) What may we hope?"

The first question aims, of course, at the subject matter of the disciplines usually labelled "epistemology" or "theory of knowledge", "logics", and "psychology". Question number (2) is the crucial question of "ethics" while the third question has been the traditional topic of "metaphysics".

Looking at this set of questions through the eye of an instrumentalist, we will perceive at first glance that questions (1) and (3) will lose much of their historic dignity and splendor and that they will considerably shrink in volume and importance as compared with the second question which becomes all important; for it is the question "what ought we to do?" that encompasses the whole field of human activity. Once we have decided to focus our attention on consequences instead of causes, the problem of intelligent choices between possible ways of acting or not-acting becomes the central problem of philosophy. Of course, an intelligent choice will presuppose the right kind of knowledge and, in this connection, "that specialized region of research called the theory of knowledge"—as Dewey calls it (*Knowing and the Known*, p. VI)—comes in for some attention. But knowledge now is no longer the "entity" that formed the subject matter of traditional epistemology; it now means "knowing", and its importance lies in that it is "knowing" for something, knowing to find out, or, as Dewey preferred to name it, to get rid of "mentalistic associations": "Inquiry". And in fact "inquiry" became for Dewey the central term and point of reference also in his teaching on logic. He here avowed his indebtedness to Francis Bacon whom

he called "the real founder of modern thought". For Bacon's famous word "knowledge is power" meant that, in contrast to the great body of learning extant in his time that was "otiose", "non-operative", real knowledge was to be "a rich store-house for the glory of the creator and the relief of man's estate".

WHAT CAN WE KNOW?

Now Dewey suggested that most of the philosophic speculations of our day—including epistemology and logic—are also otiose, non-operative while, on the other hand, the body of operative, fruitful knowledge has grown immensely since Bacon's day. This is the knowledge which has been accumulated in the natural sciences and related fields. Such knowledge is, by its very nature, dynamic. It changes and progresses continuously, adding discovery to discovery. In fact, discovery is its heart and soul. But there is only one way to discovery, and this is the way of disinterested and impartial inquiry.

Contrary to the notion inherent in the absolutistic tradition in philosophy, knowing, for John Dewey, is not a reflection of some imagined "reality". Inquiry, therefore, is not discovery of "What is", it is not something self-enclosed, and irresponsible, in the contrary, it is encouraged to step right into the middle of things. Thus knowing or inquiry will attend to every fact that is relevant to a given problem or need and it will follow every suggestion that promises a clue. But inquiry is disinterested and impartial only if no particular end is set up in advance that might restrict the activities essential for its success, namely: careful observation, the forming of ideas, and their imaginative application.

To serve knowing of this kind the traditional logic of the syllogism will not do. For, as Dewey says, "the old concept of logic and of truth falls back on what is antecedent, prior, original, a priori. It worked practically to identify truth with an authoritative dogma". Thus a new logic is called for which "shall be a method of intelligent guidance of experience", a logic of an experimental and functional type. For this new logic truth means verification of ideas and theories, it also means utility. Utility, of course, is not to be understood in a narrow sense of personal profit, but as "service in making just that contribution to reorganzation in experience that the idea or theory claims to be able to make". (All quotations in this paragraph are from Chapter VI—The Significance of Logical Reconstruction—of *Reconstruction in Philosophy*.)

A good example of the new type of logic and truth is offered by geometry, more specifically by its modern advance beyond the system of Euclid. It is general knowledge today that triangles can be constructed with a sum of their angles equalling more or less than 180 degrees. For many centuries such an assertion would have led the one that made it to the madhouse if not to the stake. It would have appeared as a grave offence to established authority and truth of which the Euclidean axioms had come to be an integral part. The alleged infallible general validity of Euclidean geometry even formed one of the principal pillars in Kant's argument for the possibility of "synthetic propositions a priori", that is for the existence of a "pure reason" independent of experience. It was only by penetrating inquiry, unhampered by traditional notions of truth or reason, that the Euclidean system was shown to be only one of an indefinite number of possible geometries.

Knowledge, then, means for the pragmatist or instrumentalist that which we can warrantly assert, and there is no other object for the inquirer than observation and analysis of the world as he finds it, as the continuous flux of life and events, or, as Dewey preferred to style it of late, as "transactions". Such "transactions", then, should be subjected to a "behavioral" study. This does not mean "behavioristic" in the sense of the well known school of psychologists. It means, as Arthur Bentley phrased it recently, "a direct, matter-of-fact, common sense approach; here they are: organisms and things, let us study them as they come". (*Knowing and Known*, p. 6.)

Such a behavioral approach excludes from the field of knowing all psychological states, interesting as they may be in themselves as the objects of inquiry; therefore all such entities as "mental state", "consciousness", "soul", "mind" are taboo in this field as they are taboo for the inquirer into the behavior of the electron, or the polymer-researcher. This is why Dewey's latest and last work on this topic—written in collaboration with Arthur Bentley—is entitled "Knowing and the Known" and carefully omits all reference to an individual "knower" or his "mind".

WHAT MAY WE HOPE?

The question (3) concerning "metaphysics" will take up far less of our time. From what has been said so far, it should be clear that Dewey's philosophy is thoroughly naturalistic. Man is a part of nature like everything else we know of. Speculations as to why this world came, or is, in existence, and whereto we are headed—the favorite fields of non-operative thinking—he left to the poets and reserved for our moments of romantic moods. He was convinced that no solution of these questions is possible unless, perhaps, as a very far away outcome of the use of operative thinking and intelligence in acting. Man is distinguished from the other species by the fact that he is a talking and a tool-making organism, and he has become what he is by using these traits more or less efficiently. The only development thinkable by, and for man is, therefore, the further development of these traits and the expansion of their applications to ever new situations thus widening the range of life and its enjoyment for every member of the race.

The philosophy of the past two and a half milleniums was for Dewey a reflection of the social conditions of a certain period of human history. "It originated", as he said, "not out of intellectual, but out of social and emotional material". Therefore, it has to be evaluated as a part of our social and emotional past, but not as a repository of intellectual achievement or final truth. As for the task of a future philosophy, it follows "that what philosophy has been unconsciously, without knowing or intending it, and so to speak under cover, it must henceforth become openly and deliberately." Therefore, "the task of future philosophy is to clarify men's ideas as to the social and moral strifes of their own day. That which may be pretentiously unreal when it is formulated in metaphysical distinctions, becomes intensely significant when connected with the drama of the struggle of social beliefs and ideals." (Quotations from *Reconstruction in Philosophy*, Mentor Book Edition, N. Y., 1950, pp. 44–45.)

It follows from such a view that all supernatural agencies, rewards or penalties are but a segment of the "social and emotional material" of older days as reflected in the philosophy of the past. The philosophy of the future should, as

Dewey expressed it elsewhere, "concentrate upon projecting an idea or an ideal which, instead of expressing the notion of another world or some far-away unrealizable goal, would be used as a method of understanding and rectifying specific social ills".

Although such a view is far from easy optimism, it is refreshing in its candid refusal to evade the serious problems which we are faced by flight into mysticism or by the use of pompous generalities. It also is invigorating through its call to intelligent action and through its appeal to potentialities germane to human beings as we know them. By virtue of this it is in the best American tradition as recognizable in such lines as those stretching from Franklin to Emerson and to Parrington, from Jefferson and Madison to Jackson and Lincoln, and thence to Woodrow Wilson and Franklin Roosevelt, from Walt Whitman to John Steinbeck, and also from Justice Marshall to Justice Holmes, and from Alexander Hamilton to Herbert Hoover. A case might even be made for the view that it constitutes the best application that can be made of these several strands of the American inheritance under modern conditions.

WHAT OUGHT WE TO DO?

However this may be, a "metaphysics"—if we may call it so—that hauls its heaven down to earth, must needs lay great stress on what in our analysis is question (2), that is the question: What ought we to do, How should we act. In considering this question it should be remembered first that, for the instrumentalist, the old schism between acting and thinking has disappeared. Thinking is only one step in acting. If life is viewed as a continuous process, there will always first be an action which is, in fact, a reaction to a given situation. Something happens. What happens, may be described in terms of energy, drive, will, impulse or whatever else; then, at some moment, there will occur a hitch in the smooth flow of acting. This is the moment when thinking sets in. Then an intelligent choice has to be made.

Dewey stressed, again and again, that there is never and nowhere to be found as a "prime mover" a thought, a mind, a consciousness. Nor are sensations the agents that start it all by impressing themselves on a supposedly empty mind. The only thing that can be observed is a continuous chain of actions and events. There always is first a situation to cope with that calls on us to act in one way or another. "Action" so-called is, therefore, really a choice between possibilities, and "Thinking" so-called is nothing but the exercise of such choice. It occurs only as a concomitant to action, as an integral part of acting.

The accumulation of many previous occurrences in the exercise of choices makes the matter of experience. Such experience creates habits, habits of acting-thinking as well as of acting-feeling, in short habits of conduct, comparable to if far more complex than, the habits of digesting food or walking upright. Thus, Dewey considered human nature and human conduct from three angles: Habit, Impulse and Intelligence. While human nature is all habit and impulse as long as the going is smooth, intelligence is applied to restore the equilibrium when it is disturbed. Intelligence is the lever, so to speak, for re-forming habits and directing impulses until a new equilibrium—within the organism or between the organism and the environment—is reached.

From what has been said above it naturally follows that, for Dewey, intelligence is nothing static, not just a mere uncovering of processes, of "transactions", of connections between actions and consequences. For Dewey intelligence is a continuous "clearing up", it makes processes into objects, it is "conscious search". As such, it is the potential agency for creating ever new arrangements which, in turn, may lead to processes and result in consequences as may have never existed before. For—to quote again—"Man is able to invent arts and by their means turn the powers of nature to account; man constructs a fortress out of the very conditions and forces which threaten him". (From: *The Quest for Certainty*, p. 3.)

But habits are and remain the conditions of intellectual efficiency. Although they obviously restrict its reach, "they are the sole agents of observation, recollection, foresight and judgment; for a mind or consciousness which performs these operations is a myth". (*Human Nature and Conduct*, p. 176.) And habits, again, depend for their functioning upon the stimulus provided by impulse.

Therefore, intelligence alone "does" nothing. An appeal to intelligence or reason is bound to fail unless it is related to a definite situation and specific conditions to be met with. Reconstruction and reform in any field, therefore, can be achieved only by the intelligent redirection of habits. As Dewey expressed it himself: "Individuals disappear, but habits persist because they incorporate objective conditions in themselves". This is why preaching won't do. There *must* be a change in objective arrangements and institutions. "We must work on the environment, not merely on the hearts of men. To think otherwise is to suppose that flowers can be raised in a desert or motor cars run in a jungle". (*Human Nature and Conduct*, p. 22.)

Morals and happiness thus become a problem of social arrangements. This is why Dewey insisted so strongly on the reform of social institutions and educational practices. For the same reason Dewey was always a strong defender of democracy. Of all the forms of government known to us, modern democracy is best suited to allow the free and unhampered change of habits and institutions that is needed for the development and growth of human nature. Dewey did not deny the dangers and weaknesses of the democratic way: "It is the way"—he said (*Culture and Freedom*, p. 129)—"which places the greatest burden and responsibility upon the greatest number of human beings. Backsets and deviations occur and will continue to occur. But that which is its weakness at particular times is its strength in the long course of human history. Just because the cause of democratic freedom is the cause of the fullest possible realization of human potentialities, the latter when they are suppressed, will in time rebel and demand an opportunity for manifestation". It is scarcely an accident that modern democracy has grown and flowered along with the growth of modern science. What the latter does with respect to physical nature, democracy—whenever old habits of thoughts are not holding it back—can do with respect to human nature.

The student of philosophy cannot fail to recognize the extent to which Dewey's analysis of human nature is indebted to the genius of David Hume. Hume, to be sure, is usually considereed to have carried his great discovery of the prevalence of habit in human nature—"custom" as he called it—to a merely sceptical conclusion. This is why Thomas Jefferson deprecated him and why all the ideal-

istic philosophers from Kant to Whitehead have tried to defeat his argument with weapons taken from the armory of Plato, Aristotle, and Leibnitz.

It is, in my eyes, one of Dewey's greatest contributions to Western thought that he broke this deadlock, and while recognizing Hume's achievement, succeeded in re-interpreting him, and thus in showing a way out of the impasse. "If Hume erred in the use of his key", John Dewey wrote, "it was because he failed to note the reaction of social institutions and conditions upon the ways in which human nature expresses itself. He emphasized habit and custom, but he failed to see that custom itself is essentially a fact of associated living whose force is dominant in forcing the habits of individuals. There was in his day little of the pervasive and powerful influence of what anthropologists call culture in shaping the concrete manifestations of every human nature subject to its influence.... It was a great achievement to insist upon the uniform workings of a common human structure amid the diversity of social institutions and conditions. What the growth of knowledge since his day enables us to add is that this diversity operates to create different attitudes and dispositions in the play of ultimately identical human factors". (*Human Nature and Conduct*, Mod. Libr. Ed., N. Y., 1930, p. VI.)

Thus, at least, there seems to be a way for the "Old Adam" of the conservatives and traditionalists to pull himself out of the mire by his own boot straps, a way other than the discredited "reason" of the rationalists or the supernatural forces invoked by the dogmatists and mystics. The way, of course, is the change of social institutions and practices and, therewith, of attitudes and habits in such a manner as to leave human nature the freest possible chance for fulfillment. For—let us quote Dewey again to clinch the argument—"social arrangements, laws, institutions, although they are means of human welfare and progress, they are not means for obtaining something for individuals. They are means of creating individuals. Individuality in a social and moral sense is something to be wrought out. It means initiative, inventiveness, varied resourcefulness, assumption of responsibility in choice of belief and conduct. These are not gifts, but achievements. As achievements they are not absolute but relative to the use that is to be made of them. And this use varies with the environment."

Dewey has been blamed for having failed to set up a "high ideal", a fixed moral goal or standard that could serve the "average man" as a rule of life. Such objections miss the whole point of Dewey's philosophy. For, as must have become obvious from these pages, it was his view that the moral confusions and abominations alluded to by his opponents are due precisely to the fact that the historic remedies of the absolutistic type have proved ineffective.[2] He believed that a moral theory based upon the realities of human nature and upon a study of the specific connections of these realities with those of physical science would

[2]The skeptic, of course, has an easier answer to such objections. He may say with Delisle Burns: "The desire for moral absoluteness is like the desire for medieval certainty in beliefs: it is pathological. The normal moral attitude implies only a certainty of the moment in an action so far good as men of our moral ineptitude can make it." (C. D. Burns, "*Progressive Morality*", from "*Ethics*" as reprinted in T. V. Smith, Constructive Ethics, N. Y., 1948, page 366.)

But such an answer would not do justice to John Dewey. For the pathological "quest for certainty" in morals is to him only one symptom of a trouble that lies much deeper, namely the general attitude of dealing in absolutes, which is our inheritance from a pre-scientific age. Moreover, the passive acceptance of the "moral ineptitude" of man stands out in sharp contrast against Dewey's virile attempts to remedy just this ineptitude, and to find means to make man more morally apt.

offer a better chance for success. He did not, by any means, expect such a theory to be a panacea. Conflict and uncertainty he considered as ultimate traits, and all action as an invasion of the future, of the unknown. Still, he hoped that morals based upon concern with facts would at least locate the points of effective endeavor, and would put an end to the impossible attempt to live in two unrelated worlds." (*Human Nature and Conduct*, Modern Lib. Ed., N. Y., 1930, Introduction, p. 12.)

DEWEY'S FREEDOM FROM SELF-DECEPTION

Here a general introduction to John Dewey may well stop. When, in conclusion and retrospect, I try to analyze what seems to make Dewey's thought so incisive above and beyond the scores of rivalling philosophic interpretations of our age, there occur to me two principal reasons: First, Dewey's patent sincerity, the stern refusal to deceive himself. Secondly, the wide vistas he opens to the searching eye, vistas that are unobstructed by dogmatic walls and fences.

Let us consider in brief what has happened to so many of the "Liberals" of our day, those heirs of the great and long tradition stretching back to the 18th century. They had believed in "sweetness and light" and they had thought, for a long time, that peace on earth and a good life for everybody was just around the corner. What they saw happen, instead, was an extension of war, subjugation, slavery and misery in almost every corner of the earth. First they were disappointed, but still hopeful; then their disappointment gave way to despair, their despair to cynicism, their cynicism to panic fear and, today, many of them, seek refuge either in the deceptive security of a new dogmatism, or in the return to old loyalties they once were proud to have shaken off.

The reason for this is—I think—that they had deceived themselves in the first place in their easy optimism. Then the inclination to self-deception became a habit with them, a habit that grew ever stronger as their world seemed to be breaking down. There is not self-deception in the neighborhood of John Dewey. Realities are faced as they come. Human beings are what we observe them to be, and not what we want them to be. They are beings living by habit and impulse, with intelligence as their potential guide when either habit or impulse give out.

The hope we have, in such a situation, if we follow John Dewey, is of a twofold nature: first we hope that we shall be able to learn more about our own human nature; we shall not do so, to be sure, by the "inspired guesses" of the mystics or the soothsayers—they have led us astray long enough—but by an approach similar to the one used by the scientist in approaching his specific problems. By doing so, we hope further, we shall be able to set up conditions of social living that may bear fruit in a slow growth of the substance of intelligence and the subject matter to which it is applied.

This kind of hope is, again, free of self-deception. For we are and we will remain fully aware of the fact that it is a hope only, a hypothesis let us say, like Pasteur's about the bacteria, or Einstein's on the bending of light rays. This hope, also, is not tied up with any belief or dogma, it does not have a fixed goal. It does not even have a single goal. Of goals there are as many as there are specific situations that appear to us as unsatisfactory and seem to require some remedy. Whatever we will do to remedy them will be tentative and subject to

verification at every bend. If need arises, we will be able to change our course, or—as Charles Beard put it in one of his more Promethean moods—"to adjust our conduct and our ideas to the noblest imagined potentialities of the constantly becoming situations." (Charles A. Beard, *Research in the Social Sciences*, N. Y. 1939, p. 287.)

Finally, not depending on any truth as pre-ordained or dictated to us, we ourselves are the sole responsible agents in the search after truth. This knowledge will give us the strength to face defeats and setbacks, and will protect us from despair and cynicism. It will also fill us with contentment. For, like the scientist, we will find satisfaction in our task independently of the final outcome.

In all these respects our condition somewhat resembles the one of the early settlers on this continent, and of their descendents who founded this nation. It is probably no accident that John Dewey, the Vermonter, was their scion.

INTELLIGENCE, MORALITY, AND DEMOCRACY

(*Continued from page 78*)

not, if a person is concentrating deeply enough, have an effect. When an outside force impinges upon a person with such strength that his ongoing movement becomes disrupted, and he in turn interacts with his surroundings so as to recognize this force, this becomes a conscious stimulus.

What does this mean for teachers? Many of the visual and auditory presentations which teachers claim to affect the student's ability to reason have little or no educative effect. This is not an argument against using such aids, but a caution against making false claims for them. They do not and cannot teach in the sense of directly presenting objects of knowledge. To be effective educationally they must interrelate with an ongoing learning activity. Within such a context they can vividly provide students with information and serve as a possible stimulant.

Teachers who understand there is no direct way to teach reasoning avoid making false claims for particular techniques. At the same time, they can put themselves in a position to make positive contributions in aiding students to reason. When they know that conditions under which people live place them in situations that demand thinking, and that the individuals involved do the reflecting required, they begin to see the fallacy in direct presentations as a way to teach reasoning. Working from such insights they see the need for analyzing the out-of-school as well as in-school forces that influence students. They must know when their students need to make decisions and how they, as teachers, can help students become adept in using the mechanism of reasoning. This kind of close relationship comes only to teachers who know their students. Furthermore, teachers who see that the demand for decision flows out of living will make their classrooms a place where students live vigorously. In addition to helping students meet problems that come out of their lives, teachers need to create controlled environments that force decision-making. When educators come to grips with the fact that decision-making and reasoning result from the way their students live and the kinds of natures they have, they will begin to take positive steps in the direction of teaching pupils to think.

THE TEN BASIC FUNCTIONS OF MAN*

BY FRANK C. WEGENER

EDUCATIONAL THEORY NEEDS A PHILOSOPHICAL CLARIFICATION of that much used and abused phrase, "the education of the *whole child.*" Nominally there is no real dispute here. Most of us are for the education of the "whole child" in the same sense that we are for the "good life" and "against sin." It is only when we begin to question the meanings and consequences of this concept that we encounter serious controversy. Do we mean only the now familiar "psychological needs" of the whole child, such as "sense of belonging," "security," "feeling of well being," and the like? Or does it mean all physical, emotional, and mental needs? Does it include the "spiritual needs" of the child, or are these alleged needs foreign to the concept of wholeness? One can easily envision the violent controversies that might be engendered by a penetrating discussion of such questions.

THE NATURE OF MAN

The Organic Philosophy of Education[1] postulates the following propositions with reference to these foregoing issues.

(1) *The meaning of "the whole child" can be resolved only by the delineation of the nature of man, for the child is actually the potential man.* The education of the whole child is a part of the entire process of developing man. When we inquire into the nature of the whole child, we inadvertently raise the philosophical question of the nature of man. Educational theory, at this very point, extends its inquiries into the realms of philosophy. Our inquiry then turns to questions such as the following: What is the nature of man as man? Is he only nominally Homo Sapiens? Or shall we conceive of man as a species as a fiction? Shall we think of the education of the whole child only in terms of the now popularized psychological notion of "individual differences?" Should we not realize that education must be primarily concerned with the common denominators of the whole person and secondarily with the unique capacities and aptitudes termed "individual differences?"

(2) *Mankind, qua Homo Sapiens, possesses a common nature.* This common nature is best understood in terms of the proper functions of man. These func-

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[1]In capitalized form the *Organic Philosophy of Education* refers to the educational philosophy of this writer. In its uncapitalized form the term *organic* refers to its familiar usages in philosophy, biology, education, etc.

tions are common potentialities inherent in man which may or may not be developed. They may be thwarted and undeveloped. As potentialities they are universal and generic capacities of Homo Sapiens. They are not "instinctive" in the older sense of rigidly predetermined patterns of human behavior. Rather, they are latent capacities, needs, or drives within the inherent structure of man. In short, these functions are immanent in man's common nature.

Since they are not "instinctive" modes of behavior, but rather universal and generic capacities within man, they are capable of diverse cultural realization. The generic potentialities are indeed universal, but their actualizations in specific individuals in diverse cultures may be varied. Universal potentiality does not mean uniform actualization. All men must eat, to be sure, but all men do not subsist on the same diet. All men must reproduce their kind to survive, but this does not mean they must all possess the same identical conceptions of the family. All men may feel the spiritual drive, but they need not agree upon the same actualizations in terms of overt religious orthodoxies.

The postulation of common functions of man, universally and generically, is not necessarily incompatible with the established anthropological conceptions of cultural diversity. Cultural diversity is no doubt a fact—granting certain common manifestations. Metaphorically, the identical seeds may yield modified products when nurtured in diverse soils. Scientific proof of cultural diversity does not necessarily destroy the philosophical conception of common capacities and hungers.

THE FUNCTIONS OF MAN

(3) *The Ten Basic Functions of Man are postulated as follows:* (i) *Intellectual*, (ii) *Moral*, (iii) *Spiritual*, (iv) *Social*, (v) *Economic*, (vi) *Political*, (vii) *Physical*, (viii) *Domestic*, (ix) *Aesthetic*, and (x) *Recreational.*

Although it is necessary to set these functions sharply apart for purposes of analysis, they are actually organically and intrinsically related. There is a sense, of course, in which they are *independent*, but they are also *dependent* and *interdependent.*[2] In analogy to the organic body of man they are related very much like the organs and parts of this body to create a whole. Brain, heart, lungs, stomach, limbs, and nervous system are all in a sense independent parts; but they are structurally and functionally related. The Organic conception of the whole man, and therefore the "whole child", includes the Ten Basic Functions of Man.

(i) *The Intellectual Function.* If a man is to become truly man, he must develop his intelligence. As Aristotle advised us long ago, we cannot realize our proper natures unless we develop this intellectual virtue or function. Now, when I say this, I do not feel compelled to defend all that is included within the Aristotelian philosophy per se. The technical questions of philosophy as to the qualitative differences between man and animal are important, but need not detain us in this particular context.

[2]Professor Archie J. Bahm, University of New Mexico, has given us an excellent exposition of the relationships of the terms used here. See, his paper, "Organicism's Nine Types of Philosophy," published in the Proceedings of the XIth International Congress of Philosophy, Vol. III, Metaphysics and Ontology, Bruxelles, 20–26, Aout, 1953.

Even in the most modern context, it must be admitted that man is at least a creature capable of symbolic learning and thinking. We need not deny the remarkable manifestations of animal learning and thinking to establish the unique quality of man's thinking. The vast accomplishments of man as expressed in all aspects of his culture—industry, art, architecture, music, science, humanities, mathematics, and all such creations—assert evidences of his mental powers.

Without the actualization of intellectual powers these accomplishments would not be possible. Where these powers have not been nurtured, man's cultures languish. Educationally we must develop man's intellectual powers both (1) prudentially, and (2) theoretically or contemplatively. The practical problems of life cannot be resolved without a developed prudential intelligence. The search for truth and understanding, despite our limitations, must be nurtured in what might be termed "theoretical" or "contemplative" areas of inquiry. Creative intelligence, too, must not be neglected.

Neither the "whole child" nor the "whole man" can be realized educationally without the nurture of the Intellectual Function. It should be noted that the Intellectual Function is organically and intrinsically related to the other nine functions. They cannot be adequately developed without the intellect. They are properly conceived as *complementary functions*.[3]

Although the Intellectual Function is universal as a potentiality, it is realized through the specific instruments and agencies of any given culture. The generic function may then be developed in diverse languages, mathematical systems, symbols, literatures, and habitual modes of thinking; without proper nurture it may never be actualized to any significant degree.

(ii) *The Moral Function.* Coordinate with the Intellectual Function of man is the Moral Function. They form the major virtues of mankind. Hence, one cannot be a human being in the full meaning of the word without the development of his moral capacities. One must achieve this development in terms of moral understanding, ethical sensitivity, and the practical moral powers of judgment and decision.

Universally and generically this means that humans, normatively considered, are inherently capable of executing moral powers. I say normatively, because some individuals may be born without the individual capacities for realizing the moral power. For example, individuals born with defective mentalities, such as imbeciles, would never develop enough intelligence to have real moral comprehension.

Normatively, then, human beings are capable of moral responsibility. Through the nurture of their generic powers they can become actual moral agents; they can learn to make genuine moral judgments of right and wrong, good and evil, legal and illegal, and social and anti-social. They have this potentiality and moral power uniquely, because they do not share it with animals. As far as we can ascertain, at least, animals other than man do not appear to be capable of genuine moral responsibility.

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[3]See, "A Proposal. . . The School Within A School," by Frank C. Wegener, *Educational Theory*, January, 1953, Vol. III, No. 1.

Again we must assert an inherent unity and an overt diversity. Although Homo Sapiens, as a species, is inherently capable of becoming moral, such capabilities are manifest in diverse cultural institutions. It is a fact that mores, morals, and ethical codes differ in the various cultures and even within cultures. This fact merely demonstrates that the generic powers may be channeled into different specific forms of action. Likewise, as our own mores and moral conceptions change with time, it does not necessarily mean that our moral powers are changing, but rather that the overt modes of manifestation are changing.

The Moral Function may be singled out for identification; it is intrinsically related to all of the other functions. For example, it is organically and reciprocally related to such functions as the Intellectual, Spiritual, Social, and Aesthetic. The education of the whole child demands attention to all of these functions of man if substantial integration is to be achieved.

(iii) *The Spiritual Function.* Very closely allied with the Intellectual and Moral Functions of man is the Spiritual Function. Analogous to man's material need for food is the inherent spiritual drive for integration with the real. Philosophy, history, and even anthropology indicate that the philosophical pursuits of man have been associated with this spiritual drive toward the real. Where men have speculated about the nature of being, of reality, of values, morals, ethics, and the nature of God, these speculations have furnished much of the content and motivations for further strivings into the realm of the religions and theologies.

Within the nature of man there appears to be a universal desire for communion with a spirituality which transcends the purely sensuous experiences of man. The articulated conceptions of what constitutes such a reality and even substitutions for the reality are many. Whether the *Nous* of the Greeks, the Nirvana of the Buddhists, the God of the Christians, the Yahweh of the Hebrews, the Allah of the Mohammedans, the Eternal Spirit of the Mystics, the Great Spirit of the American Indians, the Over-Soul of the Emersonians, or the God in Nature of the Pantheists, in all of these manifestations of belief there seems to be a spiritual hunger underlying this eternal quest.

It is not asserted here that man is a *religious* animal, per se. Rather, man has a *spiritual* hunger or drive. He has a yearning to belong to reality or to be in community with man, nature, and reality. This assertion is difficult to prove scientifically. Perhaps it is only through experience, feeling, or intuition that we can know the truth of such an assertion. Yet the psychologists frequently assert that man "wants to belong." He feels "insecure" if he does not belong. They mean this socially; but isn't this drawing a very fine line between wanting to belong in a social sense and our statement here that man's urge is to belong to what is real in our universe?

The postulation of a universal, Spiritual Function or drive, inherent in mankind, does not commit one to any specific religious orthodoxy. It has not been implied that man *must* believe in a spiritual substance, a personal God, an immortal soul, an orthodox religion, or an eternal heaven or hell. The varieties of crystalized religious beliefs are many. The channeling overtly of our spiritual powers is guided by many persons, factors, and institutions and in the end amounts to personal belief. The person who willfully destroys his spiritual powers through ignorance or perversity thwarts an important dimension of his total personality.

Spirituality is not necessarily a *supernatural* concept. Plato spoke of the tripartite division of man's nature; spirit for him referred to that "soul" or "division" intermediate between the vital functions of the body and the rational functions of the intellect. Proverbially, the spirit of man is the heart which symbolizes a deep feeling which is intermediate between rationality and sensuality. Without nurture of this hunger of the heart, mankind would be dismally hollow indeed.

(iv) *The Social Function.* Man is immanently a social creature. Without benefit of social participation, directly or indirectly, he cannot develop his proper functions. His Social Function is organically and integrally related to the other functions. Yet it is an error to regard the Social Function as the singular end of man's activities. It is only one of the basic functions and as such provides a means of developing the other propensities.

That man becomes human through social participation is agreed upon by ancient philosophers and modern scientists of social thought. The social, economic, and political institutions, for example, are requisite to man's realization of his potential nature. Individual man in isolation from all social influences could not conceivably actualize the full potentialities of his nature; he would be little more than Rousseau's "noble savage" at best.

In underscoring the importance of the Social Function of man, we should not make the error of setting it up as the end of man's activities. There is a sense in which man strives to create a good society; to this extent it is one end. Even more important is the use of society as a means toward the actualization of man's capacities both individually and collectively.

Much has been said of education as a social process. We must accept the truth of this notion, but not exclusively. In addition to the social process, education is a process of inquiry, thought, and contemplation. Through dialectical inquiry, for example, the individual in pursuit of truth and self-realization may transcend the limited connotations of the social process.

(v) *The Economic Function.* Man is an economic animal. Since he must eat to live, this proposition becomes the most evident of all of his functions. Like all animals, man faces economic problems on the level of survival. Despite the fact that man shares this necessity with other animals, there are unique aspects of man's economic nature. As societies become more complex, the problems of production, distribution, and consumption of goods become intricately involved in the whole cultural milieu. The welfare of the society is intimately related to successful economics. Man's full powers are required in wrestling with the fluctuations of the economy. Thus, in addition to vocational competence, man must comprehend the problems of economics intellectually. Man is an economic creature both in a primitive and a complex sense.

In the recognition of the fundamental role of economics, some scholars have made extravagant claims to the effect that economics is the key to our successes and failures. The complex social problems of our modern societies are frequently explained in terms of "economic determinism." From the Organic viewpoint, this is but a reversal of the error of the ancient philosophers who looked with contempt upon the economic. Since the Economic Function is only one of the Ten Basic Functions of Man, it is a gross error to explain the whole of man and society by one of its parts.

The Economic Function is manifestly related to the other functions. Prudential intelligence must solve its problems. Moral intelligence must regulate its human relations. Spirituality must prevent its grossness. Political science must regulate its manifold activities. Each function of man contributes to the organic totality.

(vi) *The Political Function.* Man appears to be a political animal both by nature and necessity. By nature he is gifted with the potentialities of sociability, intelligence, and speech. As Aristotle indicated in his *Politics:*[4]

> "Hence it is evident that the state is a creation of nature, and that man is by nature a political animal. And he who by nature and not by mere accident is without a state, is either a bad man or above humanity; he is like the 'Tribeless lawless, heartless one,' whom Homer denounces—the natural outcast is forthwith a lover of war; he may be compared to an isolated piece at draughts.
>
> "Now, that man is more of a political animal than bees or any other gregarious animals is evident. Nature, as we often say, makes nothing in vain, and man is the only animal whom she has endowed with the gift of speech, . . . And it is a characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state."

Whether or not one accepts or rejects the precise intention of Aristotle's *Politics*, it is clearly evident that man is of necessity a political animal—particularly in a democratic society. Without a successful political system supported by an intelligent citizenry, it is axiomatic that man cannot maintain his political rights and freedoms. The development of the proper functions of man demands an education which will guarantee the realization of the political being of man, which in turn relates to all the other functions. In order to become human in the fullest sense, man must be a political being, and education must work toward this end; but in working toward the function of citizenship and politics, the emphasis upon this facet of man's nature should not obscure the greater objective of the development and cultivation of man's total personality and his community with the very essence of all reality. This is merely another way of saying that man is not singularly a social being. Man in his total personality has all of these other dimensions.

(vii) *The Physical Function.* The Physical Functions of man are perhaps the most evident of man's functions. They are actual, or existential, as well as normative, universal, and generic. Physical nature demands at least minimal care of the functions if survival is to be a fact. Bodily processes cannot be totally neglected. This is in contrast to the functions that are developed only with effort and nurture, such as Intellectual, Moral, and Spiritual Functions, which can be sadly neglected.

Whereas some of the historic religions and philosophies tended to disparage and minimize the importance of the Physical Functions of man, we today realize their pervasive importance. Such functions are not evil but good; unless, of course, they are perverted, distorted, or exaggerated.

The Organic Philosophy views man as a complex organism whose organic being is not reducible to the physical category alone but as an organism composed

[4]Aristotle's *Politics*, Bk. I, Ch. 2.

of these various powers or the Ten Basic Functions. The endeavor to explain man in purely physical terms commits the error of reducing whole to part. This is true, also, of the attempt to reduce man's organic being to any other of his ten functions.

True health is to be obtained through the harmonious co-ordination of all of these functions. Education of the whole person becomes intelligible in view of this desired end.

(viii) *The Domestic Function.* In one sense the procreation and nurture of children or the Domestic Function is the most essential of all. In the physical category, it is a biological function. In the social category, it is a sociological function. Organically considered, the generation and education of human offspring should properly embrace all ten of the categories. In fact, all of the other functions become more significant as related to the Domestic Function.

The Organic Philosophy recognizes the family as the proper agency for the procreation and nurture of children. This does not mean that the other institutions of society, such as school and church, are excluded from their contributions to the development of the whole child. It does mean that the family is the fundamental unit of society, and that the potentialities of all members of the family are best developed originally in a home which provides affection, love, belonging, security, and guidance.

The creative principle is essential to the Organic Philosophy of Education. Although creativity is embodied in other functions of man, it is most profound in the Domestic Function. Man participates in the creation and preservation of life. Man and wife become human actualizations of the veritable Male and Female Components of reality itself. Together they become the progenitors of actual human life in all of its dimensions; they are the actualizers of vast potentialities. In a sense, they participate in the divine act of creativity.

(ix) *The Aesthetic Function.* Complementary to the Intellectual and Moral Functions of man is the Aesthetic Function. Coordinate with the intellectual object of truth, and utility, and the moral object of the Good is the aesthetic objective of the Beautiful. Comparable to the organic relatedness of the True, Good, and Beautiful is the coordination of the Intellectual, Moral, and Aesthetic Functions. Again they are all diverse manifestations of an organic unity.

In one sense of the term aesthetic, man's function is the discovery and creation of beauty. Fundamentally, man is capable of real art. He is a creator and appreciator of beauty. Again we find the all important principle of creativity. Art need not be limited to the fine arts, of course; in fact, man's arts could be considered in the ten categories of function.

There is another sense of the term aesthetic which means perceptive, especially feeling. As used by Baumgarten in *circa* 1750, it meant the science of sensuous knowledge, whose goal is beauty, in contrast with logic, whose goal is truth.[5] It is used by some modern philosophers to mean "prehension", "feeling", or the "aesthetic component" of knowledge. The latter is expounded by Professor F. S. Northrop,[6] for example, as complementary to the "theoretic

[5] *Webster's New International Dictionary of the English Language,* Unabridged, 1950 Edition.
[6] F. S. C. Northrop, *The Meeting of East and West.* New York: The Macmillan Co., 1946.

component" of man's knowing process. The "aesthetic component" provides man with a direct intuition of existence, while complemented by the "theoretic component" which furnishes the cognitional aspect of thought.

Man's Aesthetic Function includes, then, these two meanings of the aesthetic, (a) the pursuit of beauty and (b) the "prehensive" component of the knowing process.

(x) *The Recreational Function.* We have spoken of man's creative functions. Man also has a Recreational or Renewal Function. Organically considered, man should recreate his total being intellectually, morally, spiritually, socially, economically, politically, physically, domestically, and aesthetically. Although man can be recreated in the activity of his vocation, his true recreation comes through the proper utilization of his leisure.

In this light we see leisure activities as the opportunities for achieving the ends of the whole man. Specific activities such as reading, writing, studying, thinking, contemplating, inquiring, praying, and creating are modes of recreating one's being. Creation and recreation go hand in hand. The true artist creates and recreates at the same time. Just as surely as the cells of the physical body must be replenished and recreated in the cycle of generation and corruption, so must the renewal of man's intellectual ideas, his moral convictions, spiritual feelings, social relations, economic well being, political strength, domestic felicities, and aesthetic insights be accomplished.

THE TASK OF EDUCATION

The Whole Organic Man. Within the dimensions, then, of these Ten Basic Functions of Man we can obtain an adequate conception of the education of the "whole child." It is the task of education to assist each individual in the actualization of his potentialities into the whole organic man.

We have spoken of common, universal, and generic functions of man. This does not mean that man is without very important individual differences. The point is that our individual differences are manifest in our individual capacities and aptitudes in these common categories.

Our analysis has accentuated the ten functions as separate. It should be remembered that they are organically related. They function in coordination. A single activity involves the whole organism. Thus, a musician manifestly uses intellectual, physical, and aesthetic functions simultaneously. Organic education may draw upon one or two functions predominantly, in a given activity, but involves the whole person.

The Organic Philosophy of Education views the problems of aims, functions, values, curricula, general and special education, and the nature of the educational processes in education through these postulated Ten Basic Functions of Man. Through the unity of this framework the diverse problems of educational theory and practice can become more intelligible.

TASTE IN THE ARTS: A PROBLEM OF AESTHETIC VALUE

BY ARNOLD WIRTALA

THE SUBJECT OF TASTE, OR THE IDEAL OF "GOOD" TASTE, has long been a controversial issue. Taste is usually conceived as a sense of beauty. Beauty is universally experienced, but there is no agreement on the essential nature of beauty. There are so many facets to aesthetic responsiveness that common elements are difficult to discover and generalizations seem to be impractical. Many are apt to assert that there can be no aesthetic standard at all, meaning in their own modesty that they would not have their preference set up as a criterion. The argument is that there is no disputing taste because it is ineffable, a combination of sensibility and preference.

If people enjoyed their preferences in silence, without recourse to communication, there would be no problem. But it is characteristic of coversations about art that people try to reach agreements in their judgments of the worth of art objects. Since each person expresses his opinion and tries to persuade others to agree with him, it would seem that there are principles which would be agreed upon by all.

POSITIONS ON AESTHETIC VALUE

Aesthetics is both a descriptive and normative inquiry, the purpose of which is to help one clarify his own taste. Taste is defined as a manifestation of preference of some aesthetic objects over others. Aesthetic denotes the beholders' rather than the creative artist's viewpoint, just as in cooking, the chef prepares the food and taste is on the side of the consumer.

From a general survey of the history of aesthetics, it can be stated that individual wishful thinking has dictated solutions in this field to a far greater extent than in any other branch of inquiry. Because of the close relation of art to emotional life, everyone is apt to give a definition of art and the aesthetic experience that is individually satisfying. It is amazing to note how many people who practice objectivity in their own fields, completely lose it when discussing the arts.

The question of "good" taste is often considered either impossible or unnecessary; impossible because of the subjective nature of the "aesthetic conscience," and unnecessary, because we need only to emulate those who possess "good" taste. This is, however, a dual evasion, for if taste is based upon individual choices, then there should be no objection to an attempt to determine how those choices are made.

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A choice implies rejection and selection among alternatives presented for taste. These choices are made on the basis of some standard or assumption, whether or not it is verbally stated.

The various positions on aesthetic value which occur in aesthetic theory in different guises and combinations seem to fall into three main lines of thought.

(a) *Subjectivism*—The sole standard of value is individual response. This is expressed as an individual relativism or a kind of aesthetic anarchism in which one's likes and dislikes are entirely an individual affair. Every aesthetic experience is new and unique and hence incomparable to any other; valuation is expressed in terms of the individual's feeling toward the aesthetic object or experience. Hence agreement in matters of taste is mostly a matter of concidence and the only thing that can be said about differences in taste is that they are psychologically interesting.

(b) *Objectivism*—This position asserts that the value of a work of art is inherent in itself and is therefore independent of human relationships. There are certain ultimate and absolute standards by which a work of art can be judged, and hence it follows that there can be but one correct taste. Because of human fallibility, these ultimate standards may never be known; yet people can approximately agree if they restrain their subjective idiosyncrasies and concentrate on the higher level of intellectual appraisal. There is an essential distinction between the sensuous, immediate, and spontaneous activity called "taste" and the rational and intellectual effort that accompanies "judgment."

(c) *Relativism*—The third position is more moderate and lies between the two extremes. It avoids both absolute values and irresponsible preferences in favor of a concept of value in terms of an interaction between the art object and the valuing subject in a total situation. It holds that a stated preference or liking is a necessary condition for valuation, it is none the less an insufficient one. It further states that our desires may be improved, and that we can and should strive for something better.

Following either subjectivism or objectivism to an extreme will end in an absolute. On the one extreme, the individual is absolute; on the other, "beauty" lies somewhere out of our phenomenal range. Neither position is tenable. For, as Whitehead expresses it, "Sensitivity without impulse spells decadence, and impluse without sensitivity spells brutality."[1]

The major problem is, then somehow to come up with a formula of taste that can be expressed factually, in which the objective and subjective factors are given their rightful place, and in which the individual response is retained but endowed with some measure of objectivity. To do this without giving either a valuation by putting one higher or lower than the other is admittedly difficult.

When a person is faced with the problem of determining what is good or bad in art, it is possible that he will adopt one of the following attitudes:

1. He can claim that a critical attitude is unimportant, that for him analysis and description ruin the pleasure attending the aesthetic experience;

[1]Alfred North Whitehead, *Science and the Modern World*, pp. 201–202. (New York: Mentor Book, The New American Library, Second Printing, 1949.)

2. He can make judgments of good or bad without knowing his own grounds for such preferences;

3. He can attempt to work out a standard for himself, that he will comprehend.

It is with the latter position that we are concerned.

TASTE AS AN ACTIVE PROCESS

As a point of departure, let us assume that taste is a sense of beauty and that beauty is a value that is a relation between the beholder and the physical work of art. It would follow then that the beholder's foundations of taste are based upon perception and imagination; that perceptual sensitivity is the point of contact between the individual and the art object, and that imagination is the reintegration of percepts into concepts. To the extent that taste is based upon one's inner resources, it is therefore an active rather than a passive process.

The beholder's taste is analogous to the artist's process of creation, as both depend upon perception and imagination. The artist analyzes reality by directing his sensors in patterns that are aural, visual, or symbolic. By selecting and accentuating certain features, the artist creates a new gestalt. However, the artist's goal is the creation of a *synthesis* of human experience, whereas the beholder's goal is an imaginative elaboration upon a framework suggested by the work of art, a framework which directs and circumscribes that elaboration by means of relevance and adaptation.

The extent to which the beholder partakes of the *process* of artistic creation, to that extent he is also creative. Taste is not a process whereby the sensitive artist incorporates his perceptions in an art object and which are "recovered" by the equally sensitive beholder. Rather, the physical work of art is but a set of conditions that become works of art only when they produce in the beholder a phenomenal effect in experience. This is to say the beholder has a great deal to do with completing a work of art. Though he is aware of certain signs and stimuli, his knowledge of them is an interpretation. Each person brings to each perception a fund of past perceptions which are transformed by imagination into a synthesis. This synthesis is a conception or interpretation of reality.

It is suggested that art is the symbol for man's feelings about the world in which he lives. It was created in a series of processes, and evokes responses on the part of the beholder that are individually conditioned. It might be argued that such a definition is too subjective, that the work of art provides merely a perceptive framework which the beholder fills in by means of his imaginative resources. However, such an argument is faulty in that it fails to take into account that the work of art controls the beholder's imagination by means of relevance and adaptation.

Relevance controls the irrelevant importations from the beholder's private imagination. Adaptation controls the beholder's context of perceptual adjustment. Consider for instance stereoptic movies. Even if the beholder is struck temporarily by the size of the figures on the screen, he soon adapts himself to the context and follows the performance as if it were the normal scale of perception.

RATIONAL JUSTIFICATION FOR TASTE

Aesthetic value is an intrinsic value rather than an instrumental value. It is based upon a recurrent interest or an interest in continuing the present experience. Though taste is a preference among aesthetic values, there nevertheless can be a rational justification for taste. Certain types of tastes *can* be disputed; for instance, taste that involves (1) ignorant judgments based upon inadequate understanding; (2) judgments based upon a limited awareness; and (3) judgments made on the basis of transient or unstable interests.

Normative criteria do exist, and function within certain limits on all levels of aesthetic experiences. These criteria can be built upon a multiple frame of reference that includes three interdependent variables: sensitivity, experience, and orientation. Even though tastes are individual, they can be compared in terms of this frame of reference. It is suggested that the criteria of relevance, significance, and feasibility be used by the individual, both normatively and descriptively.

Relevance is an important criterion in the development of taste. It is another way of saying what is *in* a work of art. Relevance can be established in several ways. One is to show that a detail in perception is a sensation which is directly stimulated by a work of art. The other way is by organization, by which it is to show that the details that refer to one another in perception all tie together into the stimulated details. At least part of the reason why a work is considered good is because the various details work together on some principle of integration. An evaluation that is based upon this principle is aesthetically more relevant than judgment based on the rarity of the work of art, or how long it has endured.

Since the criterion of relevance is based upon perception, it gives rise to four interdependent considerations. (1) The degree of sensitivity has a great deal of influence on preference. (2) Habits of perception add further conditions upon aesthetic preferences, e. g., limiting taste only to one's preferred value. Thus when one perceives new works of art, many details of perception are apt to escape detection. (3) With exercise, one's senses become aware of more possibilities than otherwise. Hence the perception of relevant details is dependent upon the adjustment to new situations. (4) A wide background of diverse experiences makes it possible for one to perceive and appreciate more fully the value potential of a work of art. Therefore the only adequate judgment of a work is one based upon the fullest perceptual realization containing the fund of previous experiences.

To perceive implies a response on the part of the individual. That response, however, is not a fortuitous subjective variable; there are constant objective factors in the work of art which determine the nature of the individual response.

If there are certain qualities of a work of art that are objective, then by what means can we expose a subjective distortion of those qualities? Two criteria seem possible. First, if we can show that a person has failed to perceive all of the possibilities for perception in a work of art, i. e., if he fails to record the response to differences in the stimuli; secondly, if a person described a work of art which other beholders fail to confirm by perception or response and to which there is no physical correlate.

As to the relevance of the criteria, it seems wise to restate the findings on perception. A person comes to a work of art with certain expectations and habits

built upon previous experiences. It is against this background that perception is selected, defined, and evaluated. According to this principle, we perceive by our past experiences. Consequently it follows that there are many things in a work of art which we do not perceive and many things that we think we perceive which are not in the work at all.

But simply because the aesthetic experience is not subject to empirical proof or disproof it tends to thrive on and accumulate authority. Intolerance, in matters of taste, rests on the fact that it is not easily subject to contradiction: since it is an individual affair, it also engenders a kind of certainty.

It is a human propensity to read into an object something which actually exists in the mind. Once it is established by some sort of authority, there is a kind of aesthetic obligation on the part of the beholder to put himself in rapport with the established masterpiece and discover the beauties that lie therein.

This is an unfortunate assumption. Beauty is not a transcendental entity awaiting in some outer sphere which is incorporated by the sensitive artist and recovered by the equally sensitive beholder. Beauty is not a fact, but a relation —a relation of the human beings with his fund of experience to the physical work of art. Beauty is something that "happens" in this process.

It follows that relevance can be established only on the basis of perceptual sensitivity and imagination. Perceptual agreement therefore is a necessary antecedent to aesthetic evaluation—since such evaluation cannot be accomplished in any convincing manner except on the basis of intimacy with the work of art itself. Persons who immediately start disagreeing about aesthetic value might be induced to suspend their impulses to praise and blame until they have agreed to the perceived content. They might discover that their values were not as divergent as they had supposed.

ARTISTIC EXPERIMENTATION NECESSARY

Descriptively, a work of art is significant if it has stood the "test of time." To many people, only what has stood the test of time "ought" to be treated as exemplifying the standards of art, since such works of art can be an objective judgment. There is no doubt that by following this principle many possibilities of error can be avoided. But the "objectivity" so secured is dearly bought if the price paid is a dearth of living taste. To these people, changes in taste are no enigma. It is to them essentially a weeding-out process in which "inferior" works of art are inevitably eliminated through the infallible judgment of time. Survival is in itself the proof of fitness to survive.

Many works of art, when viewed in terms of the short span of our sensuous and physical lives, will never die. This generates an illusion of immortality. Neither their beginning nor their ends can be perceived. This illusion is brought about by our limited experience in time and our short cultural memory. Therefore a historical viewpoint is very necessary in evaluating works of art. Even in cases where a work of art is adjudged great by any test, its significance is determined by its relation to the rest of culture.

On the other hand, a static contemplation of the past, or of other cultures, might go so far as to neglect the necessity of the continuous emergence of the new. If there be any element of truth to the notion that an artist has some-

thing vital to say about the society in which he lives, then it follows that there is a need to develop beholders who are perceptive and sensitive to what the artist is saying. The alternative is to relegate that task to some future generation.

History is no doubt an important tool in detecting aesthetically significant objects. A genre without a history would also be without adequate grounds for judging it. If a person wrote a symphony for washtub and typewriter nowadays, there would be no previous experiences similiar to that to which one would be able to relate this new experience. But if all of our symphonies had been orchestrated for such instruments, within this context it might have a certain amount of value. The art of other cultures involves foreign technical achievements, so that one cannot easily tell a good Navajo dance from a bad Navajo dance, or a good Japanese water color for a bad Japanese water color. From this it follows that the judgment of a work of art must be in terms of experiences in the same artistic genre of the same culture.

There is, of course, the danger of accepting a historically judged value without perceived significance. People who misunderstand the study of historical criticism as a preliminary to artistic production often fall into that mistake. Certainly there are no more reactionary listeners to music than many musicians. If a work of art does not standup to what was done two centuries ago, that work of art is adjudged to be odd or of little relative merit.

The whole point is that there has to be experimentation in the medium. Artists cannot be restricted, and forced to imitate what has been done before. They must absorb the traditions, and experiment so as to come up with something new, but new within a historical context. Certainly Stravinsky, when writing the *Sacre du Printemps*, knew the history of music very well. He was familiar with the orchestra, the scales, the tempi, etc. His Parisian audience who threw tomatoes at the orchestra and rioted during its initial performance evidently were not. The historical context is inevitable. Artists cannot ignore it and succeed; neither can they completely accept it and succeed. They have to know the rules in order to break them.

Artistic experimentation in a genre must be done in the context of previous experimentation. The kind of synthetic experimentation that is "purely" respectable is in many cases not useful because it does not relate to the experiences that people have had. This, of course, depends upon how intelligent it is, and how extreme it is. When a composer like Schoenberg starts playing with scales, he is doing it in relation to what Bach did. When someone with no previous experience with scales starts to compose, he may overlook the significance of continuity. Hence it might be said that this is the way in which he misconceives it.

TASTE A MATTER OF DISCRIMINATION

Normatively, however, one method of detecting aesthetically significant objects is by immediate experience as satisfying the imagination. Thus the worth of a work of art "ought" to be judged in one's own perception.

There is a strong residue of distrust in people's abilities to make their own appraisals. In matters of taste, they tend to question their own feelings and judgments. They are, in a sense, afraid to be themselves. There is a persistent

notion that only a few people can truly appreciate art, rather than the notion that most people can appreciate more fully if they make better use of their potential to perceive, respond to, make valid estimates as to the worth of works of art, and make predictions as to their own future tastes.

The criterion of significance normatively implies differentiation and discrimination. It further implies learning—learning to differentiate between lasting impressions and passing whims, between experiences that give the most satisfaction and those which give the least. There is also differentiation in a qualitative sense; that is, the cultivation of a sense of values to which later judgments are referred.

Though it may be easier to accept what has been developed rather than undergo a process of inner development, such a taste cannot be labeled "good." Intelligent choices are made in terms of their predictable consequences, based upon past experiences. This is the only tenable meaning of "good" in taste. This, then, becomes a standard. Conformity to any other standard than one based upon one's own individual discriminating perceptual response would be bad. Development of taste must be in terms of the individual's undergoing of the aesthetic process, the exercising of his own perceptiveness and responsiveness.

In judging or experiencing works of art, one is urged to take various, often conflicting, courses of action. To these, the criterion of feasibility may be applied. For instance, one may be urged to toss tradition aside as sheer nonsense. This, however, is not feasible; but one "ought" to realize on what it is based so that he can intelligently reconstruct it.

Similarly, aesthetic theories and criticisms are full of generalizations about the aesthetic values of certain types of art. Rather than trying to build new conceptions from the ground up, one can, without presupposition as to their truth, test those already formed. Thus he can observe how these generalizations actually guide valuations; to what preferences and orders of value they have led to in practice.

Normatively, it is not fesible to expect a work of art to actualize something it cannot actually do. The standards used must be feasible. The standards are ideals; this phase of the process of taste is the explicit evaluation of the work of art in terms of relevant value possibilities.

Taste, instead of manifesting itself in praising and blaming art, would have as its central task to become aware of and to understand all sorts of art. Taste in this sense would challenge the beholder's capacities and would make the greatest demands on his ability to discriminate. Therefore it is not enough for education to determine what people like spontaneously, but what they can come to prefer as a result of educational influence.

Taste can have a rational basis, but it ought to be based on the individual's own resources. To rely upon any ready-made formula is to rely upon criteria of sometimes dubious value. Standards of taste are individual, but chance preference needs to be enforced with reason. By sharpening perception upon the whetstone of experience, bias and prejudice can be converted to insight, and new realms opened for perception, enabling art to enhance experience. In short, good taste implies discrimination; of making choices among alternatives by means of intelligent analysis of experience.

TWENTY-FIVE YEARS SINCE THE SIGNING OF THE FIRST INTER-GOVERNMENTAL STATUTES ON EDUCATION

TWENTY-FIVE YEARS AGO the International Bureau of Education became an intergovernmental organization. It was established, as a private undertaking, four years previously, on 18th December, 1925, through the initiative of a group of educationists under the leadership of Edouard Claparède, Pierre Bovet—who became its first director—Adolphe Ferrière and Elisabeth Rotten. From 1926, the Organizing Committee was assisted in its task by the first general secretary, the late Miss Marie Butts. It had taken more than a century for the realization of the idea that Marc Antoine Jullien of Paris had launched in 1817 when he foreshadowed the establishment of a Special Commission on Education, entrusted with collecting information about the situation of education and public instruction in all countries.

It was on 25th July, 1929—a date which coincided with the appointment of Jean Piaget to the directorship of the Bureau—that the representatives of the first three member governments (Poland, Ecuador and the Republic and Canton of Geneva) as well as the representative of the J. J. Roussean Institute (which has made possible the existence of the IBE during the first stage) signed the new statutes, in the offices of the Department of Public Instruction of Geneva. This event marked an important step in the history of the international organization of education since, for the first time, representatives of governments appended their signatures to a document committing them to collaborate in the educational field. The first world war had, as a matter of fact, prevented the meeting of the Intergovernmental Conference on Education, convened to take place at The Hague from 7th to 12th September, 1914; the word "education" did not figure in the Covenant of the League of Nations in 1919, and this same word was finally eliminated from the draft resolution, approved in September 1921, establishing the International Committee on Intellectual Cooperation, in connection with the same League of Nations.

The signatories of the statutes, which comprise 17 articles, proclaimed in the preamble "that the development of education is an essential factor in the establishment of peace and in the moral and material progress of humanity". They also declared their conviction "that the collection of data on research and application in the field of education and the assurance of extensive interchange of in-

INTERNATIONAL BUREAU OF EDUCATION
GENEVA, JANUARY, 1955

formation and data by which each country may be stimulated to benefit by the experience of others is of importance to this development". They desired that the Bureau, aiming to promote international cooperation, would "maintain an entirely neutral position with regard to national, political and religious questions", and that as an organ of information and investigation it would "work in a strictly scientific and objective spirit". Finally, they wished to point out that the activities of the Bureau would be twofold, as stipulated in Article 2, namely, "to collect information relating to public and private education, and to undertake experimental or statistical research and to make the results known to educationists".

What more appropriate, in commemorating this 25th anniversary, than to recall to mind several other dates which constitute landmarks in the development of the activities of the International Bureau of Education: 8th July, 1932, the Ministries of Education of all countries were invited to submit a report on their yearly educational progress to the Council Meeting of the Bureau (1st International Conference on Public Education) . . . April 1937, transfer of the services of the Bureau's Secretariat to the Palais Wilson, former headquarters of the Secretariat of the League of Nations. It was here in 1938 that the first section of the Permanent Exhibition of Public Education was inauguarated . . . 16th December, 1939, the Management Committee, which, on account of the war, had taken over the powers of the Council and of the Executive Committee of the Bureau, decided, in agreement with the representatives of the belligerent powers, to organize a service of intellectual assistance to prisoners of war, a service which, up till the end of hostilities, succeeded in sending to the different camps more than 600,000 scientific and literary volumes. Finally, 28th February, 1947, signature of the agreement ensuring collaboration between Unesco and the International Bureau of Education, and making provision, amongst other things, for the establishment of a joint committee, the publishing conjointly of various publications, and the organization and convening in common of the International Conference on Public Education.

It is encouraging to note, after a lapse of 25 years, the favourable change in the attitude of the governments towards international collaboration in matters concerning education. It is also only fair to draw attention to the efforts which the International Bureau of Education has made to render effective the principles laid down in the statutes signed on 25th July, 1929, and to remove the ostracism to which non-founded fears and adverse circumstances, in the international field, seemed bound to condemn education.

FREE STUFF: HEADACHE TO SCHOOLS

AASA Advises How to Take Give-aways

The American Association of School Administrators—disturbed by the "tidal wave of instructional materials" which are offered free for the asking "or even without the asking"—has published a 24-page pamphlet to help the classroom teacher pick her way through the maze of free offers.

Entitled "Choosing Free Materials for Use in the Schools," the brochure advises that "the only defensible basis on which to select materials, either free or purchased, is the degree to which they make a contribution to the basic educational purposes for which the school exists."

The great outpouring of free material is labeled "a major headache for teachers and administrators today." Donors or sponsors of these materials include civic, patriotic and political organizations, business, industry, government, labor and agriculture. Their offerings range from booklets, charts, maps, kits, posters, films and recordings to planned speaking programs, tours and mapped field trips.

The AASA report attributes the rising flood of free materials in recent years to the fact that 30 million youngsters—"a captive audience"—represent a potential market. Principal objections to free materials on the part of school people can be grouped under two headings: (1) They may contain obvious advertising. (2) They may contain biased information.

The report does not urge a ban on all free instructional material. Educators regard supplementary free materials—when the material is good—as an important source for keeping available information current, the report points out, adding that much of the material received is outstanding.

In studying the problem, the Association found that most school systems have no established policy or regulations for screening the materials.

The report suggests the following check list but emphasizes that each school system must adapt its policy to its own situation:

(1) Define the relation which materials must bear to the basic purposes and objectives of the school.

(2) Provide specific guide lines upon which rules for selection and use can be based.

(3) Clarify for teachers the limits within which they have official backing in the selection and use of materials.

(4) Delegate responsibility to appropriate administrative officials or other school personnel for selection and handling of materials.

(5) Make available necessary funds so that teachers are not forced to use materials as substitutes for superior materials that could be purchased.

New Holt Texts . . .

CHILD DEVELOPMENT

Millie Almy

Organized around the authentic life histories of six eighteen-year-olds, this unique text for the introductory course keeps *children* in the foreground of student interest. The author maintains a positive viewpoint, stressing the experiences which facilitate healthy personality development.

Published May 6

THE BEGINNING TEACHER

Wilbur A. Yauch, Martin H. Bartels, Emmet Morris

A practical text for senior classes of prospective teachers, this book is designed to bridge the gap between the years of preparation for teaching and the first experiences on the job.

Published April 22

CRUCIAL ISSUES IN EDUCATION

Henry J. Ehlers

A stimulating anthology of current writings on six critical problems in contemporary education: loyalty, censorship, religious education, world-mindedness, and progressive education.

Published February 18

TEACHING SPELLING

Gertrude H. Hildreth

An up-to-date treatment of the most effective methods of teaching spelling as a skill for use in writing. Features a new 3400-word vocabulary for school children compiled by Dr. Hildreth and based on the Rinsland word study.

Published January 3

ARITHMETIC FOR TEACHER-TRAINING CLASSES, *Fourth Edition*

E. H. Taylor and C. N. Mills

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HENRY HOLT and Co., NEW YORK 17

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EDUCATIONAL THEORY

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